THE

# CAROLINA JOURNAL

OF

### MEDICINE, SCIENCE, AND AGRICULTURE.

New Series.

EDITED BY THOMAS Y. SIMONS, M. D.

PORT PHYSICIAN;

Extraordinary Member and formerly Senior President of the Royal Physical Society,
Edinburgh; Member of the Medical Society of South-Carolina; Honorary
Member and Vice-President of the Charleston Medical Society
of Emulation; and Member of the Agricultural
Society of South-Carolina.

VOLUME I--NOS. 1 & 2.

CHARLESTON:

PRINTED BY C. C. SEBRING, 44 QUEEN-STREET,

PUBLISHED BY W. R. H. TREADWAY,

No. 33 Broad-street. 1826. dat verl de dez

IV.
I ond din

stud lyti vrij dan

V.
is I doc bloowen
If ged once
Reg van han

VI. I

### CONTENTS.

### No. I.

ART.	AGE
1. Account of the Winter Epidemic of 1815-16, as it appeared in and	
adjacent to Columbia. By James Davis, M. D.	13
II. Case of Rheumatic White Swelling. By A. Sheftall, M. D.	18
III. Case of Menstrual Obstruction. By John S. Bellinger, M. D.	22
IV. On the Culture and Properties of the Arrow Root. By White- marsh B. Seabrook, Esq.	
V. A case of Constipation of the Bowels, relieved by an emetic. By	100
F. Y. Porcher, M. D.	25
VI. Review.—A Lecture delivered at the opening of the Medical Department of the Columbian College in the District of Columbia.	
By Thomas Sewall, M. D. Professor of Anatomy and Phosiology,	
VII. Review -Original Communications made to the Agricultural	
Society of South-Carolina,	. 39
VIII. An Address, delivered on the first anniversary of the Charles-	
ton Medical Society of Emulation. By James W. Taylor, M. D.	79
IX. On the Cotton Caterpillar. By B. Reynolds, Esq.	85
Medical and Philosophical Intelligence,	89
Agricultural Intelligence,	99
No. II.	
I. A Letter from Dr. John Lining, Physician at Charleston in South-	
Carolina, to Dr. Robert Whytt, Professor of Medicine in the	
University of Edinburgh,	105
II. Case of Traumatic Tetanus, successfully treated by the applica-	
tion of the actual cautery. By Robert S. Bailey, M. D.	118
III. Case of Tetanus. By T. Y. Simons, M. D.	122
IV. Description of a case of Neuralgia Congenita. By Charles At-	200
Line M D	100

st ly vi d

> is d

b

g o F v h PAGE

141

174 181

184 198

300 S	
	V. On the Natural History and Propagation of the Bombyx Mori, or
	Silk Worm. By Jacob De La Motta, M. D 1
da	VI. Review—Lectures of Sir A. Cooper, Bart., F. R. S., Surgeon to the King,
ve	VII. History of a Child born Deaf and Dumb. Described by M.
de	Magendie, and translated from his Journal for this Journal, 1
de	VIII. On the Cultivation of Maize. By Thomas Pinckney, Esq. 1
17	Medical and Philosophical Intelligence, 1
IV	Agricultural Intelligence, 1
on	
di	

41

74

# CAROLINA JOURNAL

OF

### MEDICINE, SCIENCE AND AGRICULTURE.

New Series.

### ARTICLE I.

ACCOUNT OF THE WINTER EPIDEMIC OF 1815—16, AS IT APPEARED IN AND ADJACENT TO COLUMBIA, S. C. BY JAMES DAVIS, M. D.\*

THE late pestilential epidemic catarrh, which has occasioned a greater mortality than Carolina ever before experienced from any other epidemic, commenced in the town of Columbia early in last November, in the form of common colds, immediately after the disappearance of our autumnal bilious fever. These colds were unusually rife for that season of the year, and the symptoms of them were coughs with some rawness and soreness of the pipes and chest, and occasionally slight soreness of the throat with some The head was never affected. Although this disease now assumed this mild appearance, it was easy to discover from the sallow complexion and languid condition in which it left the patients even after slight attacks, that there was more malignity in it than in a common cold. The successful method of treatment also pointed out a difference between them, as after cleansing the first passages freely with cathartics, a liberal use of the bark proved a

VOL. I.

1

<sup>\*</sup> This interesting article was published in a pamphlet form many years since. Through the politeness of Dr. Joseph Johnson, we obtained a copy from the author, and with much pleasure present it to our readers. Editor.

speedy and certain method of cure; which would not have been the case in common colds. In many instances the degree of morbid affection was so slight as not to require the aid of medicine; and in these cases their duration was from one to three, four or five weeks, according to the employments and habits of the subjects of them, in remaining within doors, or in being much exposed to alternate changes of the external atmosphere with the attemperated air of a chamber.

By the latter end of November and the beginning of December. these colds began to wear a more serious complexion; the worst cases assuming the type of violent pneumonia, while the more ordinary cases began to be accompanied with severe fevers and local affections of the parts about the head. By the middle and third week in December the disease had become truly alarming. eral mortal cases had occurred, accompanied with symptoms of malignity, and the subjects of it were multiplying every day. the middle of January it may be said to have reached its acme, and by the second week in February to have nearly subsided. It however is not yet entirely passed off, for upon the recurrence of every damp cold day or two a few severe cases immediately appear; and a slight sore throat which is at this time unusually rife, must be considered as a modification of the same disease. During this ten or twelve weeks of its prevalence it manifested considerable malignity, and left but too many to painfully remember the winter of 1815-6; nevertheless I apprehend its violence and mortality have been greatly exaggerated. Its mortality was considerable, it is true, but there can be no doubt from authentic information, that several other places, as Williamsburgh, Newberry and the vicinity of Cambridge, have suffered incomparably worse than we have I do not mention this circumstance because it is any consolation that other places have suffered more than Columbia, but to remove improper impressions with regard to this place; for in this respect it has been egregiously misrepresented.

Every serious case of this epidemic was ushered in by a chill, with an unusual aching of the joints and extremities of about two or more hours duration. A few hours before this chill, in very many cases, sudden, acute and excruciating local pains in some part of the body, but especially about the face and head, as in one

tooth, one ear, the orbitary bones of one eye, one side of the maxillary bones, one side of the head, the bones of the nose, or perhaps still more remotely, a pain in one knee would appear, whilst the subject was in perfect health, as precursors and premonitors of the approaching disease. The circumstance of a formal chill at the commencement afforded a certain prognosis of the nature of the future disease, whether it was to be a light or a severe one. Not a single case of a severe nature occurred without this symptom, and not one which was marked with it, that did not prove exceedingly violent. The measure of severity and danger might also be predicted with considerable certainty from the severity and length of the chill, as the violence of the disease was generally correspondent to the severity of this symptom.

A fever immediately succeeded the cold stage, and perhaps in nineteen cases out of twenty, within the first twenty-four hours a pain began to form in some part of the thorax, attended with cough, constituting pneumonia. This pain continued to increase in violence, spreading and occupying a more extensive portion of the chest, until in some instances it seemed to have pervaded the whole region of the thorax, or shifting from one part to another, for nine, ten or eleven days, when a crisis occurred either by expectoration, perspiration or urinary depositions, or by all three of them, and the disease gradually solved.

In pneumonic cases the pulse was seldom hard, but was very quick and manifested great irritation. The warmth of the skin was not very ardent, but until near the crisis was generally disposed to be dry. About the third day and sometimes on the first, the tongue became covered with a yellow fur. The thirst was not generally considerable, but short paroxysms of it occurred in which it was excessive. There was seldom much pain in the head, and yet there was almost constantly present a slight aliena-There was some expectoration from the beginning tion of mind. of the cough; at first it was commonly a little bloody, but frequently only a tough glairy phlegm. The urine during the disease was a little diminished in quantity and of a high red colour. Muscular strength was considerably prostrated and the patients suffered much anxiety. The sleep was greatly disturbed. The respiration was hurried and frequently performed with a little catch, as if

from some obstruction, even when the pain in the chest did not appear to be very acute; but it seldom amounted to dyspnœa, except in fatal cases, and then for a few hours just before death, it was excessively severe, suggesting an idea that the chemical function of the lungs was suspended, rather than that they were rendered impervious from infraction or mechanical obstruction. The cheeks were often marked with a circular blush which in some cases was of a remarkably deep crimson colour. Upon the whole, however, the apparent difference of symptoms between these cases and ordinary cases, of sporadic pneumonia was not very striking. The difference chiefly consisted in the greater danger attending the epidemic cases, and the unsuccessful result of the remedies usually employed in sporadic pneumonia.

Towards the ninth, tenth or eleventh day the expectoration became more easy and copious, the matter of which was generally yellow. Spontaneous and comfortable perspirations burst forth. The urine became more abundant and turbid, deposited a copious mucous sediment and the disease gradually terminated.

This was the train of symptoms that appeared in the generality of pneumonic cases; but not in all. There were some in which the arterial actions were prodigiously energetic, and others in which there was scarcely any re-action in the blood-vessels, exhibiting every mark of the greatest debility compatible with life. These latter cases were more embarrassing to the physician than the former, but nevertheless did not prove to be more mortal. They ran the same course, had similar crises, and terminated about the same time with the kind of cases above described.

Besides the pneumonic form of this epidemic, which was here the predominant form and occasioned nearly all the mortality in this community, we also had three other types of it. The pneumonic form in all serious cases was so greatly predominant, that perhaps we should not depart very far from propriety to denominate the disease an epidemic pleurisy or peripneumony, rather than that of an epidemic catarrh. The next most prevalent form exhibited a determination of disease upon the brain and meninges with violent pain in the head, suffused countenance, redness of the eyes and delirium. In another, the disease fixed on the blood-vessels only, in the form of violent fever; and in the

third, but in very few instances, there was a local determination to the throat producing cynanche pharyngea. The difference of symptoms between these types and the pneumonic type chiefly consisted in the usual symptoms arising from the parts locally and most violently affected; except perhaps that the vascular actions were generally more energetic in the former than the latter; and that cough did not attend on the former so early in the attack as it did in the latter. In the head, fever and throatcases, the cough supervened about the state of the disease, and about the ninth, tenth, or eleventh day an expectoration of yellow matter came on, together with spontaneous perspirations and urinary depositions—and the disease gradually solved. It is here worthy of remark that whatever type the discase assumed the symptoms attending the crisis were the same; and perhaps there is no disease in which these symptoms are more uniform and essential than they were in this. These kinds of evacuations appeared to be those which the nature of the disease pertinaciously required for its solution, and it appeared that none others either natural or artificial could be successfully substituted for them. Not a single case recovered, so far as I am informed, without one or more of these evacuations, however long the period of crisis might have been deferred.

In the cure of this disease, as I above remarked, in its first approaches, the cases were readily managed with purgatives, and the subsequent use of the bark; but when it arrived to its full strength the bark was no longer admissible except in the state of convalescence. During its whole reign, however, it exhibited various degrees of morbid affection, and very many cases occurred in which it was only necessary to recommend confinement to the uniform atmosphere of a chamber, a spare diet with perhaps some gentle tonic medicines, as the infusion of quassia or the bark.

In treating the pneumonic cases, it was readily to be perceived, that bleeding, our chief remedy and principal dependance in sporadic pneumonia, was not the leading remedy in this disease. For although it was frequently useful and sometimes absolutely necessary to have recourse to it, yet the benefit derived from it even in these cases, and where there was considerable inflammatory diathesis with violent local affection of the chest, was not equal to my

expectations, nor to what I had been accustomed to obtain in sporadic pneumonia. This disease was decidedly of a bilious character, modified by the influence of the cold season into the form of catarrh. In some cases a redundancy of bile was manifested by the immense discharges of it by evacuants, and in others where it did not seem to be so abundant, yet we have reason to believe from the acrimony of the discharges and from its appearance that a vitiated state of it was the cause of the disease. In many cases towards the decline the complexion assumed the bilious hue, and in some a true jaundice supervened in the midst of the attack.

The remedies most uniformly useful, and which ought to be considered as the chief and leading remedies, were cathartics, diaphoretics, anodynes and espispastics. In cases of very energetic arterial actions venœsection was absolutely necessary; and in cases of less vascular energy, when the local inflammation in the chest was fixed and extremely acute, small bloodletings were useful and even essentially necessary to save the lungs from immediate destruction. But in general it was requisite to be extremely guarded in this operation, and to take away no more blood than was absolutely necessary to rescue some vital part from immediate mischief. In cases of very strong arterial actions, or of excruciating pains of the chest, it was necessary to abstract blood until these symptoms were moderated and reduced down to that point which a skilful judgment could determine no longer threatened immediate But more than this evidently did mischief, either by protracting the crisis far beyond the natural period, or by suppressing the critical evacuations altogether; and by leaving the patients to struggle under a tedious debility during a long protracted convalescence.

The blood was most generally buffy in every stage of the disease in which it was drawn; but frequently not until the third, fourth or fifth day. The buff was commonly of a yellow colour; and in some instances the coagulum was imperfectly formed, being of exceedingly loose texture, with a liquid kind of buff floating over it, exhibiting almost a semipurulent appearance.

Neither the buffy appearance of the blood nor the obstinacy and unmitigated state of pain, afforded those just criteria for repeated venœsections, as in sporadic pneumonia. It was necessary that

the physician should not be over anxious to subdue these symptoms to that point of moderation which he was accustomed to do in common pleurisies, but to wait the critical termination; trusting the resolution of a much higher degree of remaining local inflammation to the evacuations of expectoration, &c. attending the crisis, than would be justifiable in sporadic pneumonia.

Refrigerant cathartics, such as the sulphat of soda and the sulphat of potash, were the most useful; and it was necessary to repeat them every day or every other day during the disease; and to employ the intervals with diaphoretics and anodynes. serviceable diaphoretics were the pulv. antimonal. or the Jamespowders, and powders composed of tart. emet. and sal. nitre. The anodynes, either the elixir paregoric or laudanum, were best given at night, to compose the irritation and to co-operate with habit in inducing a comfortable sleep. It would be natural to fear that the anodynes might have an effect in repressing expectoration; but so far from it, they usually repressed only a harassing fruitless cough during the night, but promoted the expectoration when the cough returned in the morning. It was proper, however, not to resort to this remedy too early, nor until after the morbid excitement had been somewhat reduced; and if in the course of the disease the morbid excitement suddenly increased, it might be proper to intermit its use. It is unnecessary to add that the anodyne ought always to be so given as not to interfere with cathartics.

This was the general mode of treatment which I found most successful in every type of this epidemic. The difference of type requiring no other difference of treatment than some local applications suited to the parts most violently affected, except in the cases attended with extreme debility, where it was necessary to have recourse to some diffusible stimulus and cordial. The warm aromated toddy, as being most grateful and convenient, was generally resorted to.

In chest-cases, epispastics on the seat of the pain, especially if fixed, were beneficial. In cases of the cynanche, when not violent, the volatile liniment combined with a solution of camphor in Sp. Terebinth. was very serviceable, but in violent cases epispastics to the throat were indispensably necessary. Such gargles as best

promoted a secretion from the fauces were useful, and for this purpose the simple forms, as warm sage tea with honey and sal. nitre, were perhaps as good as any others. In head cases epispastics when applied to the back of the neck were strikingly beneficial, and I was informed of one case which approximated nearly to phrenitis in which an epispastic over the whole of the shaved scalp afforded immediate relief. In mere fever cases blistering was most usefully performed on the extremities.

Soon after the solution of this disease the appetite of hunger frequently returned very suddenly, and was remarkably ungovernable; in these cases it was necessary to restrain the patient in the quantity of his food, but his appetite craved a generous diet, and it was useful to indulge it; a poor meagre diet only served to keep up a state of debility and languor but too common after this disease, and to protract the convalescence.

I have faithfully endeavoured to comprise in this communication an accurate history of the rise and progress, types, symptoms and cure of this epidemic. I am happy to be able to add that Doctor E. D. Smith, Professor of Chemistry in the South-Carolina College, who during my own illness with the disease, was necessarily drawn into the practice for several weeks from the scarcity of medical aid, and to whom I showed this communication, confirms the statements I have made as accordant with his own observation and experience. And as from authentic reports, this disease has assumed very various shapes in a great number of places; it is much to be desired that similar communications could be obtained from every place in which it has appeared.\* The History of Epidemics is at all times interesting to the physician and the philosopher; and yet no diseases are involved in greater obscurity. In the profession of physic, where the practitioners are considered as the guardians of health, the community at large have a claim upon their exertions; hence moral duty should stimulate them to every information that may tend to general good. It is beneath the dignity of a physician to consider himself the

We refer our readers to two interesting essays on this subject, one by Dr. Porcher, in the 3d number, and one by Dr. Haynesworth, in the 4th number of this Journal. Editor.

object of his own attention; he should deal out his bounty with a liberal hand, and let his observations and experience be diffusive.

## PART II. Peculiarities and Anomalies of the late Epidemic.

This subject would appear at first view to be more curious than useful; but when it is considered how far the peculiarities and anomalies concomitant on a disease may tend to establish the identity of its character, it will be found not to be destitute of utility. It may also be of importance to the practitioner upon any new recurrence of the disease, to be apprised of its anomalies and the consequences to which they lead, and thereby saved from those perplexing embarrassments which new and singular appearances sometimes impose upon him.

It has been the practice of medical writers to denominate all catarrhs which have prevailed epidemically by one common appellation implying an identity of character. "From Sydenham upwards to Hippocrates, the epidemic catarrh was known and is mentioned by the name of catarrhalis febris epidemica. Since Sydenham's time it has been variously named, but is now generally known by the name of influenza." How far this may be correct and proper requires investigation.

In examining the history of epidemic catarrhs we find a very great diversity both in the symptoms and in the methods of cure; scarcely any two of them in immediate succession presenting a sameness of character. If nosological terms are to be continued in use, it is important that they should be applied with the utmost discrimination and strictest precision; otherwise unwary practitioners and others, seeing a method of treatment prescribed for a disease under the usual name by which it is known, will take it for their guide, right or wrong, and perhaps not discover their error until after the loss of several valuable lives. A great source of this want of precision in former times was doubtless the seldom recurrence of these epidemics, as according to Dr. Fothergill they had appeared at uncertain intervals in England during the two hundred and fifty years last preceding the year 1764, on an average of only once in thirty-one years; but unfortunately for us in

modern times this excuse does not apply, for since the year 1768, they have returned in England upon an average of once in only about every six years, and in this country since the year 1757 the average has been once in only about every seven years. It prevailed in America in the years 1757, '61, '72, '81, '89, '90, 1807 and '16, so that in this ratio it may return under the observation of one man, during an ordinary lifetime, six or eight times, which affords but too ample an opportunity to industry and attentive remark to make accurate observations and useful distinctions.

Dr. Rush remarks that "the influenza passes with the utmost rapidity through a country, and affects the greatest number of people, in a given time, of any disease in the world," in which he is corroborated by many other writers. But our late epidemic was peculiarly slow in its progress in pervading the country. In its march from the northward to the southward its progress appears to have been only from about 100 to 250 miles per annum. In the winter of 1813 it was in Philadelphia; in the winter of 1815 it had advanced as far southwardly as Salisbury, N. C. and in this winter it has visited most parts of South-Carolina. Since its invasion of this State, its progress from place to place has been equally peculiar; appearing in spots or neighborhoods only thirty or forty miles distant from each other, at periods of four, five, six or eight weeks apart. It was also peculiarly capricious in the circumscribed locality of its prevalence, attacking one particular community, raging for eight or ten weeks, and then passing over a large intermediate tract of country and seizing on another circumscribed community. In this way it has been meandering through the State ever since early in last November, and at this time it is still raging in some neighborhoods adjacent to others where it prevailed early in the winter, and from which it had long since passed off.

It has been peculiar in raging with the greatest severity in the interior of the country, whilst the sea coast has been exempted or suffered comparatively but little. And yet in the interior of the state, the most swampy situations, margins of rivers and places most subject to the endemial autumnal bilious fevers, have suffered most severely from the epidemic.

It was likewise peculiar in its manifest predilection for male subjects in preference to females. The proportion of females attacked did not perhaps exceed one tenth or one fifteenth part; but some few who were attacked seemed to have the disease equally as violent as the males. Children under four or five years of age were remarkably exempted, and amongst children above that age the males most generally suffered. It was not peculiarly fatal to the aged, nor to such as had a prior tendency to pulmonic affections, but on the contrary some very old people recovered who had the disease severely; and, indeed, it fell with its greatest severity and mortality on the robust, and on such as were in the prime of life.—Corpulent persons appeared to enjoy an exemption;—and it was thought that Europeans and the natives of the Eastern States were much more exempted than the natives of more southern latitudes. Females in a state of pregnancy were not more liable to abortions in this disease than in others of equal violence, which unhappily is not the case in epidemical catarrhs To drunkards, as might have been expected, it was generally. generally fatal.

This disease was peculiar in its universal tendency to determine on the chest in the form of pneumonia. For although a small proportion of cases determined to the head, blood-vessels only, or throat, yet the tendency to the chest was so general as almost to warrant the denomination of an epidemic pleurisy or peripneumony rather than that of influenza. It may also be remarked that relapses were more seldom than in ordinary influenzas. It was peculiarly under the influence of temperature and humidity. on the recurrence of cold damp weather, of which we have had an unusual share this winter, the cases immediately multiplied, and those who had been previously ill never failed to become worse. It was perhaps from this circumstance that it proved in many places peculiarly fatal to negroes, as they were more exposed to the vicissitudes of the weather, and their lodgings generally cold and uncomfortable. Exposure to the external atmosphere and cold, seemed constantly to predispose to the disease, and hence, perhaps, is the reason why females, children and corpulent people were more exempted from it than others, as corpulence serves as a defence against the influence of cold.

In two anomalous cases in this town, the local determination to the brain was so sudden and violent in two robust men, as to occasion convulsions, without any premonitory symptoms. Both these cases proved fatal, one within 48 hours, and the other within a few days. In a lad of 14 or 15 years of age, the disease was ushered in by a sudden attack of stupor. He was travelling on the road in company with some others, and complained of nothing before he fell down in a state of insensibility. This case recover-A pneumonic case occurred, of a typhus nature, accompanied with a cough in every respect resembling the hooping-cough, except that the matter of expectoration was uncommonly copious and purulent from the beginning. This is a recent case, and after a tedious illness seems likely to recover. In three pneumonic cases towards the period of the crisis, the disease precipitated itself upon the extremities, producing an alarming state of phlegmonic inflammation, which terminated the constitutional disease by establishing copious suppurations. In two of these cases it fell upon the arms, and the inflammations and enormous swellings extended from the fingers to the shoulders. The suppurations took place around the elbow in both cases, forming extensive sinuses, from which the discharge kept up for many weeks. both recovering, but threaten an anchylosis. The other case fell upon the leg, suppurated copiously, and is doing well.

I was informed by the physicians of this place, of three cases in which hæmorrhages from one or both ears occurred, in which the patients lost from ten to sixteen ounces of blood. One of these cases recovered. Three or four cases occurred; in which the eruption of a rash on the 2d and 3d day, put an end to the disease; and in one it appeared as late as the 4th or 5th week, in conjunction with the other usual symptoms attending the crisis, and seemed to be beneficial.

Two pneumonic cases occurred, in which uncommon copious bronchial or pulmonary secretions took place at a late stage of the disease, and after the condition of the patients had given hopes for several days of convalescence. This secretion occurred suddenly, and the matter of it was expectorated by an exhausting paroxysm of coughing. The quantity expectorated at one time, was from about four ounces to two pounds, in the space

of from fifteen minutes to two hours. In one of these cases it recurred periodically with nice precision, at the same hour and almost at the same minute, in every twenty-four hours, for four or five times.

The matter of this secretion had an intermediate appearance between pus and mucus, of a white colour with a taste not easily described, but more nearly resembling the taste of a raw egg than any thing else. This secretion was followed by evident and immediate relief to the chest. The respiration became more free, the lungs more easily expanded, the remaining pains and uneasities about the chest were mitigated, and the convalescence was visibly more rapid.

These discharges gave an impression that they proceeded from the rupture of vomicæ or abscesses, which had formed in the But that this opinion was erroneous, is obvious from the following circumstances: The matter was obviously different from the matter of common abscesses, as an experienced eve would readily perceive. If, however, it had been real pus, yet this alone would fall very far short of being proof, that it proceeded from an abscess; for it is a fact long since established, that pus may be, and very often is formed from inflamed secreting surfaces, and the secreting surfaces of the bronchiæ, most especially are liable to take on this kind of secretion. The expectoration of this matter was moreover regularly periodical after certain inter-It continued at each period about the same length of time, and then gradually but rather abruptly ceased; after which not a single particle of it could be expectorated by any effort of coughing, either spontaneous or intentional, until the next regular period of its recurrence. Now it is obvious, that if this matter had proceeded from a ruptured abscess, however rapid and copious the first discharge might have been, yet a supply of more or less matter must have been constantly formed in it until the abscess was healed; and must necessarily have been brought up, from time to time, during the intervals, by coughing. To suppose the contrary, we must believe each discharge to have been the consequence of the rupture of a distinct abscess, and the more especially, as each succeeding discharge, and even the last, was equally as copious as the first; and then we must admit the preposterous conclusion, that each abscess was instantly healed upon being emptied. A conclusion, unfortunately for the subjects of pulmonary abscesses, contrary to all experience.

Upon the whole, I conclude that these discharges were the effect of bronchial and pulmonary secretion; and that it was a mode of evacuation attending the protracted crisis of the disease, by which the lungs were unloaded of infractions, and possibly the whole system relieved of offending matter; for it ought to be remarked, that both these cases had long passed the usual period of termination of the disease without the usual symptoms of expectoration, &c. attending the crisis.

In very many pneumonic cases a pain remained on the seat of the inflammation during the whole time of convalescence. This pain, from the circumstances of its being so suddenly variable, sometimes better, and sometimes worse in the course of a few minutes, and seldom giving any uneasiness except by an expansion of the thorax, or some exertion of the muscles about the part, was most probably of a rheumatic nature. In one case they seemed to occupy every intercostal muscle, giving considerable pain upon every expansion of the chest, as by deep inspirations, &c. but occasioning little or none of uneasiness when these muscles were relaxed or only in their ordinary state of exertion. Although these pains were evidently seated in the intercostal muscles, yet there was an evident connexion between them and the state of the lungs, insomuch that a few coughs, and even small expectorations, would occasion a mitigation of them for some time.

I have given the principal peculiarities and anomalies that have attracted my attention, and beg leave to close this communication with a notice of some popular notions, with regard to the prevention of this formidable disease. I am informed, that the inhabitants of Williamsburg district, where it has made great ravages, believe that the progress of the disease has been completely stopped by burning their woods; and it is said that several circumstances afford considerable grounds for the opinion. I am also informed, that a gentleman in the town of Granby, where the mortality has been almost unparalleled, had an early recourse to burning tar in his yard and about his doors. His family escaped the disease. Another gentleman of Camden, whose negroes were

situated on his plantation not far from another where the negroes had experienced uncommon mortality, upon perceiving that the disease had made its appearance in one of his kitchens, had recourse to the same expedient, and the disease progressed no far-In Fairfield district, a notion has prevailed, that those who were employed in clearing lands, where great quantities of brush and wood have been necessarily burned, have been exempted from the disease. Is it impossible that these notions should have some foundation in truth? The products of the combustion of various kinds of vegetable matter, may contain some active and po-It is known to chemists, that the combustion of several substances, and especially the resinous wood of pine, produces carburetted hydrogen-gas in very great abundance. This gas, from its affinities with some other species of matter, is capable by combinations of totally changing their properties. Is it then impossible that this substance should combine with the latent remote cause of the epidemic in the atmosphere, and destroy its viru-Or is it impossible that carburetted hydrogen-gas should so influence the animal system, as to destroy its susceptibilities to the impressions of the remote cause? These ideas are altogether hypothetical, but perhaps not too absurd to demand some attention; nor to forbid a further inquiry into the effects of combustion, in arresting or destroying this all-devouring monster.

Columbia, S. C. April 5, 1816.

Extract of a letter from Dr. J. Trent to Dr. E. S. Davis, of Abbeville, S. C.

RICHMOND, March 19, 1816.

DEAR SIR,

The epidemic of which you speak, as raging with unexampled mortality in South-Carolina, is most likely of the same kind with that which prevailed here the last winter, (1815.) You request me to give you a history of our epidemic, with the treatment which I found most successful. This cannot be fully done in the compass of a letter, as its aspect was influenced by a va-

riety of circumstances. The disease attacked suddenly (when violent) with a chilliness or ague, excruciating head-ache and pains in the joints, soreness of the throat, hoarseness and oppressed breathing. As soon as the head-ache moderated, the patient generally complained of pain in some part of the chest or abdomen, which was seldom fixed for the first two or three days. coming on of these shifting pains of the breast, the cough and respiration became more troublesome and laborious, and was often attended with a rattling or wheezing, which denoted great danger, as it proved the lungs to be threatened with congestion of blood, or effusion of lymph, a morbid condition from which they are not easily relieved, and to prevent which our efforts should be promptly and vigorously made. In some the whole force of the disease was spent upon the head, producing a suffocated state of the brain, which carried off the patient in from 24 to 48 hours. Others had it to fall upon the throat, producing cynanche laryngæa, which suffocated the patient in from 6 to 48 hours. But the most common form of the disease, was a congestion of the lungs, which in a few days ended in suffocation. The only lingering cases were those in which coagulating lymph was effused on the surface of the lungs and the brain, creating an irritation which kept up the fever for two or three weeks; but which were oftener and more easily removed, in consequence of the time afforded for a saliva-The treatment of the epidemic was regulated by the type of the fever which attended; which, in this place, in a large proportion of the cases, was inflammatory or mixed (synocha or synochus.) I saw not a case of typhus, and yet it was called typhus generally; but was made so by the stimulating practice which occasioned that prostration of the system consequent to a state of indirect debility. This word typhus, has occasioned the death of thousands in our country within the last four years, by leading to an erroneous conception and treatment of the prevailing diseases. Practitioners should recollect, that the most inflammatory diseases produce the most immediate and overwhelming prostration of The debility of the indirect kind, and not typhoid, as strength. is generally supposed.

To relieve this debility, you must abstract from the oppressed system in that gradual and cautious manner, which a knowledge

of the subject or principle of re-action alone can teach. I pursued the antiphlogistic course of practice throughout the fever. Bloodletting was used at the beginning, according to the state of the pulse and the preceding health of the patient. In a majority of cases I did not bleed at all, and yet I bled in this disease more copiously than I had ever done before. From many whose brain or lungs were threatened with congestion, I took, with the most happy effect, from 25 to 50 ounces of blood at once, and sometimes repeated the detraction to nearly the same quantity, being regulated by the re-action of the system. The blood was cupped An emetico-cathartic dose was then given, and a large blister laid between the shoulders, or around the throat, if the disease located itself here. In violent cases I gave of ipecacuanha and calomel each, 20 grs. mixed, or a dose of salts with 3 or 4 grs. of tartarized antimony. This remedy operating well, produced unspeakable relief to the head and throat, as well as to the breathing.

After blood-letting, vomiting and purging had been sufficiently used, I prescribed febrifuge powders or pills, in which calomel always made a part. If the extremities or surface became cool, which was often the case, sinapisms or blisters were laid to the wrists or ancles, and the skin was bathed with hot spirit of turpen-Nothing was omitted to recal action or heat to the surface. This condition of the system was generally attended with a small, accelerated and corded pulse at the beginning. I always bled in it, which gave my patient a good pulse, and equalized his excitement. A cold skin and small contracted pulse, were generally treated by potations of warm brandy or wine, which powerfully aided the disease in disorganizing the brain, throat or lungs. ter the fever and its alarming attendants, inflammation, congestion and effusion were removed by the antiphlogistic practice, I prescribed blisters, exercise, and a restrictive diet to restore the patient.

I ought to have mentioned, when describing the disease, that a highly bilious character sometimes attended it. The patient not only throwing off a great deal of vitiated bile, but becoming very yellow. The liver was sometimes the part on which the disease spent its force. A very frequent form of the disease was that of

bilious pleurisy, which required less bleeding and more purging than the other form.

I am respectfully, &c.

### ARTICLE II.

CASE OF RHEUMATIC WHITE SWELLING. BY A. SHEFTALL, M. D. Honorary Member of the Medico-Chirurgical Society of New-York, and Physician to the Gaol of Chatham County, Georgia. Communicated to, and read by Dr. T. Y. Simons, before the Medical Society of South-Carolina.

THE obstinacy and fatality which have resulted from cases of White Swelling are so numerous, that it is not necessary at present to give a pathological description of the disease, but merely the prominent symptoms which marked and followed this case, from the commencement to the end. It is well understood, that there are two varieties of White Swellings, one Scrofulous, the other Rheumatic; it is this last species that I now present. On the 15th day of February, I was called on to visit Mrs. aged about twenty-two years, who laid prostrate and in great agony. After ascertaining that her knee was the cause of her indisposition, I made examination, and found a considerable enlargement of the articulation, the skin having an inflamed appearance, produced from the application of a blister plaster, which had been a few days previously used. Her pulse was small and quick, her face considerably flushed, her tongue coated with a white fur; the least pressure of the part, motion or movement of the body or leg, would be productive of the most severe and acute suffering. I applied immediately a large emp. vesicatoria, covering the whole knee, directing it to remain undisturbed until the next morning; and gave a saline cathartic, in small but repeated doses. On the next morning, when I visited my patient, she described the most agonizing sufferings—the want of sleep, a continual fever, great restlessness, and a lancinating pain passing through

the articulation of the knee;—her pulse increased. On examination I found the blister plaster had performed its duty. I dressed the vesicated part again, gave a saline cathartic, and took blood from the arm. In the evening of the same day, the fever had lessened, but my patient was still restless, and writhing under the severest torture of feelings. Her knee presented no aspect indicative of a mitigation of her disease; her pulse had lessened in consequence of a diminution of febrile action, yet it was more frequent than I could wish for. The next morning, to adopt her own language, "she was rather better." Her knee was painful, but she had slept some, and had been all night in a copious perspiration, as she continued when I saw her; the vesicated part began to put on a dry appearance. The following day I applied another blister plaster, which had not been long on before she had it removed. In the afternoon, I again directed the plaster to be applied, finding it highly essential, with positive injunctions that it be kept on, till I visited her again. Perspiration was more profuse, pulse quite small and frequent, and the emaciation so universally met with in patients similarly affected, was now truly and faithfully depicted: her once florid cheeks were now of yellowish hue, and her fine, delicate and thin skin, partook of the shriveled and flabby nature of decrepid old age. This was her situation for six weeks, with alternate paroxysms of fever, then colliquative sweats, with such lancinating pain passing through the articulation of the knee, that her screams might have been heard fifty The remedies used were, saline cavards from her residence. thartics, venesection, continual vesication of the morbid part, embrocations, and fomentations, without any very evident advantage or benefit to my patient. With a knowledge that every remedy adopted and used, had not mitigated the disease or relieved the pain, the recommendation of the celebrated Cooper occurred to my mind. "The only method of treatment which my own personal experience enables me strongly to recommend, consists in keeping up a discharge from the surface of the diseased joint." I then determined to resort to issues; a remedy at first though painful, was the only remaining one, that could ultimately promise a cure. When a disease so formidable in its nature, and so excruciating and destructive in its effects, was marching with a lofty head,

and making the most ruinous inroads on the constitution and life of a human being, no remedy, however severe or hazardous, ought to be withheld. With a full knowledge of the obstinacy of the disease, and the unbounded sufferings of my patient, I made two issues on each side of the knee, above the flexor tendons of the leg, rather larger than a half dollar. The application of poultices for the first five days was made, until the dead parts sloughed off; then peas were used as an excitant to the issues; the peas were confined in wax; they did not exactly meet my views, or equal my expectations, not having produced as great a discharge of pus, as was desired. I then had a small block of hard wood with lozenges cut upon it, and covered with sealing wax; this was applied, and bandaged on; it was continued for the space of eight days, without producing a discharge that satisfied me. I afterwards resorted to warm poultices composed of the middle of bread, water and grease, and applied them frequently, as warm as my patient could bear them. I soon discovered the discharge was plentiful, and that my patient found ease and quiet. I continued the poultices, she could move her leg with less pain and inconvenience; she needed no evacuating medicine; her nights she passed in fine tranquil sleep; her appetite returned, and the ædematous appearance of the knee diminished. Whenever the issues were inclined to heal, the cicatrised parts were touched with the nitrate of silver, and large warm poultices applied, which yielded a plentiful discharge of pus. I particularly noticed, it frequently occurred, that the discharge was small, and immediately my patient would complain of a lancinating pain passing through the articulation of the knee, which was always successfully dissipated, by the freer promotion of the discharge. or cloudy weather had a similar effect. A long, tedious and severe disease, requiring a continued horizontal position in bed, with feet rather elevated, so as to take off the determination of blood from the lower extremities, could not fail of producing a depression of spirits upon the mind of any mortal; notwithstanding, such was the unexampled patience exercised by this female during the whole progress of this direful disease, that I do not hesitate in saying it formed an auxiliary in the completion of the The issues were suffered to remain open for four months.

There was an alternate swelling of the knee, and after a lapse of time, about three weeks after the issues dried up, the whole of the knee, leg and foot were so considerably swollen, that there was no shape to either. I had then to resort to a roller, and the use of a decoction of red oak bark, with little or no advantage, and at the end of two weeks, leaving it to nature, the cedematous parts lessened, and finally disappeared. My patient now began the use of the crutch, which enabled her to walk, but with great awkwardness. With the exception of an anchylosed joint, my patient enjoyed her health as much as she ever did, and pursued her avocations with agility and comfort. It is proper for me to state, that my attention was directed to the previous habit and condition of my patient, who was from a cold climate, habituated to an active life, and whose former mode of living was generous. These circumstances demanded of me the strictest watching and positive language, to prevent any improper dietetic being introduced or carried to her.

I cannot conclude without laying much stress on the beneficial They most assuredly form a very important results of issues. remedy in mastering an herculean disease—a disease that too frequently rides over the exertions of the most scientific and energetic votaries of medicine. It has been justly observed by a surgical writer of much experience and eminence, "that it is one of the most severe and intractable diseases, which increase the catalogue of human miseries." Convinced of the importance of issues in this disease, I do unhesitatingly recommend this remedy as one claiming the utmost respect and consideration. They act obviously upon the principle of counter-irritation, and also modify the vascular action of diseased parts. My experience, strengthened by the result of deliberate reflection, informs me, to relieve vessels loaded with abundant matter; no remedy will more certainly effect this great desideratum than the use of issues.

I now take leave of this subject;—the result of my practical observations are respectfully submitted, and the subject I now transfer to those, whose mental and scientific qualifications may shed a ray of light, illustrative of the distinguished superiority of the science of medicine.

#### ARTICLE III.

TO THE EDITOR OF THE CAROLINA JOURNAL.

SIR-I take the liberty to send you, a statement of the following case, which, if you deem of sufficient interest, you will give it an insertion in your valuable Journal. I must premise, however, that for many years past, I have attended to farming, much more than either the theory or practice of Medicine. I shall only give a plain statement of the case, and leave others to shew, if it throws any light on the different opinions relative to conception. in October, 1817, Mr. K-, a farmer of this district, applied for advice relative to his daughter, Mrs. C-, about twenty years of age, and then married four years. She had never had a menstrual discharge, either before or since her marriage. every four weeks, she had every symptom indicating an effort of nature, to effect that event; for the last two years, all those symptoms were much aggravated; and within the last few months, on the recurrence of those symptoms, great pain and swelling of the abdomen, just above the pelvis. I directed the warm bath and some brisk cathartics, which produced a mitigation of the symptoms; but her mother, believing some natural obstruction was the cause, an examination was resorted to, which indicated the nature of the case. An incision was willingly submitted to, and on the 12th of that month it was made, when at least two quarts of dark blood and consistence of fresh tar, was discharged—this discharge continued a few days, and about another quart came away. the regular period, the menstrual discharge occurred, and on the 26th of August, 1818, she was delivered of a fine son, now at school. The vagina was greatly distended, from the accumulation of blood, and by its pressure, had almost closed the rectumthe discharge was not offensive. From the statement of Mr. C--, and the examination of the case, I am induced to conclude, the urethra had been used in lieu of the vagina, as it was greatly enlarged.

JOHN S. BELLINGER, M. D.

Pine Forest, Barnwell District, November 15th, 1825.

#### ARTICLE IV.

ON THE CULTURE AND PROPERTIES OF THE ARROW-ROOT.
BY WHITEMARSH B. SEABROOK, Esq.

This plant, in Botany Maranta, a genus of the monandria monogynia class, is a native of the West Indies, and has long been justly esteemed for its many valuable qualities. History acquaints us, that it was a certain antidote to the milk of the manchineltree, and that the Caraib Indians, who invariably poisoned their arrows with this deleterious fluid, appeared to have considered the toutola, (Indian,) as the only remedy sufficiently powerful in its application, and instantaneous in its effects, to arrest its direful progress. Whether applied externally, or administered as a ptisan, the consequences were equally happy. As the milk of the manchinel operated rapidly; and as the arrow-root was the only antidote, the inference is fairly deducible, that against any poison, if timely used, it would serve as an effectual safeguard. As a wholesome, nutritious and pleasant beverage, experience bears ample testimony. To the infant, the aged, or the diseased, no food can be administered, which will be more palatable, or more easily digested. In bowel complaints, it is of itself a remedy; and in dyspeptic cases, and acute diseases, it constitutes the most proper aliment; as a diet drink, no article of the materia medica is to be preferred; in fact, the stomach will readily accommodate itself to it, when every other nourishment has been rejected. If such are the useful and medicinal virtues of the arrow-root, its cultivation for domestic purposes should be general. Twenty feet square of earth will yield a quantity sufficient for a large family for two years.

The method of culture is simple, and is as follows: Upon a piece of ground moderately high, and of a loose soil, make small beds, three feet asunder, and at the distance of every two feet, drop one seed, which should be covered about two inches deep. The middle of March is the proper season for planting, and no care or attention is subsequently required, but to keep the plants

free from grass and weeds. After the first frost, they should be dug; and when you have selected the seed, it is necessary for their preservation, that they should be buried at least one foot in some dry and warm spot. The preparation of the root for food is tedious, and in consequence of the toughness of the outer coat, it would be advisable to perform the operation as speedily as possible after digging. As soon as this is effected, grate the roots in a clean vessel of water; then pass the contents thereof through a sieve; this must be repeated, taking care to change the water at every successive operation, so long as any coarse particles remain in the sieve. The water is then allowed to settle, and if it exhibit a clear and natural appearance, the sediment is in a fit state to be dried, which should be done, if possible, in the sun, and in a confined situation, where no dust can reach it. To a table-spoonful thus prepared, pour on a pint of boiling water, stirring it at the same time briskly; to which add a little nutmeg and sugar, and you will then have a jelly, pleasant as it is healthful.

#### ARTICLE V.

A CASE OF CONSTIPATION OF THE BOWELS, RELIEVED BY AN EMETIC. COMMUNICATED BY F. Y. PORCHER, M. D.

The following case is communicated particularly with the view of drawing the attention of our medical brethren to the plan of treatment lately recommended by Dr. Hosack, of New-York, in cases of constipation of the bowels, and which, in his hands, has so happily succeeded in several cases. As far as I know, the treatment is novel; but, coming as it does from such authority, is highly deserving of attention, and promises to add another, and valuable agent for the removal of an affection, always distressing to the patient, and often extremely embarrassing to the practitioner. As far as a solitary case can go towards testing the efficacy of a remedial measure, the following has been highly satisfactory.

Early on Monday the 26th December, 1825, I was called to see Mr. T. G., about twenty years of age, of rather a feeble, delicate constitution; he informed me, that he had had no evacuation from the Friday previous; that on the preceding morning, he was taken with colic; that he had taken several doses of castor oil, without its having produced any cathartic effect; had passed a sleepless night, in consequence of excessive pain; that vomiting had come on towards daylight, and nothing could be retained on the stomach. His countenance was indicative of great distress; pulse eighty strokes in a minute, small and compressible. Warm fomentations were first directed to the abdomen, and in an hour after, an enema, composed of an ounce of spts. of turpentine, with the yolk of an egg and a little gum arabic, with eight ounces of warm water; after using these injections for several hours, a dose of calomel and jalap was administered, and repeated in two hours Finding towards evening that no benefit had resulted from these means, and the pain still distressing, with great irritability of stomach, the warm bath was directed, and powdered charcoal, in doses of a table-spoonful, to be given every hour.

Tuesday morning. He had passed a distressing night; no evacuation from the bowels; the charcoal had relieved the irritability of stomach in a great degree; he had applied in the night, of his own accord, a large blister over the abdomen, which had drawn well. He was now placed in a tub, and cold water dashed over the abdomen, and extremities; this was repeated four times, in the course of two hours. The tobacco injection was next used in small quantities, and repeated, until a considerable degree of nausea and general relaxation was produced. Blood-letting was not practised, as no indication whatever existed for its use; as the tobacco injection produced all the effect of complete relaxation, which could have been desired from that operation, it was not used at any subsequent time. As soon as the stomach was relieved from the effect of the tobacco enema, one scruple of sub. mur. hydrarg. was given, followed in an hour after, with a strong infusion of senna, with salts. The warm bath was again used at night.

Wednesday morning. Found that he had had but little pain since the use of the cold affusion—had passed a better night—his

VOL. I.

stomach retentive. During this and the next day, various means were used; the comp. ext. colocynth, with gamboge and calomel, made into pills, was given every hour, for some time. The tartar emetic enema, as recommended by Dr. Chapman, and enemas of tepid water, in the quantity of several quarts, with a view of overcoming the obstruction by mechanical means, were all resorted to. The tartar emetic enema was not used to the quantity proposed by Dr. C., my patient's very languid state, at that time, rendering it necessary to use caution in the administration of such large portions.

Friday morning. Found my patient no better; had passed a disturbed night; stomach was now tranquil and retentive. At this moment, one of my students inquired of me, whether I had tried an emetic, as proposed by Dr. Hosack. I then for the first time recollected having seen his account of several cases treated successfully. The following emetic was sent, with directions to take one dose every fifteen minutes, until a sufficient emetic operation was produced: R. antim. tart. gr. 4; pulv. ipecac. scr. 1; m. et divide in chart iii.

On visiting my patient in about two hours after, I found that he had had four or five full emetic operations, followed by several copious, feculent evacuations by stool, having in them the charcoal, which had been taken several days before, evidencing at once that the evacuations had been from the entire alimentary canal; from this time no more pain or uneasiness was experienced, and he rapidly recovered.

# ARTICLE VI.

REVIEW.—A Lecture, delivered at the opening of the Medical Department of the Columbian College in the District of Columbia; March 30, 1825. By Thomas Sewall, M. D. Professor of Anatomy and Physiology. Washington City: Printed at the Columbian Office. 1825. 8vo. Pp. 80.

The establishment of a Seminary of learning, in any place, is an important event; for the influence which such institutions are calculated to produce on the habits and character of communities is far more general and extensive, than we may at first imagine. They not only awaken a taste and ardour for science among those who otherwise, for the want of some powerful stimulus, would have wasted their lives in indolence and ennui, but generate (if we may so speak) an intellectual atmosphere which is inhaled more or less by all under its influence, and produces some change in their moral constitution.

It would be worse than idle, however, to arrest the attention of our readers with disquisitions on doctrines which, by the general consent of that portion of mankind who are capable of judging, have become axioms. We shall, therefore, give an abstract of the work before us, and make some general observations upon the state of our Medical Schools.

Dr. Sewall, in his Lecture, gives a sketch of the history of medical literature and science throughout the United States, from the earliest period to the present time; together with sketches of the lives of some of our most eminent physicians, and the origin of all our Medical Schools, &c. &c. All of our eminent physicians previous to the Revolution, were educated in Europe, and attended principally the Universities of Leyden and Edinburgh. There were consequently many distinguished and scientific physicians in our country, although there was no medical school. Among many others, we may mention Drs. Garden, Lining, and Chalmers, of South-Carolina, Mitchell, of New-York, Boylston, of Massachusetts, and many others who stood high not only in

America, but in Europe, and were members of some of the most learned institutions of that continent.

No attempt it appears was made to establish a Medical School until 1765.

'Previous to this period, and as early as 1750, the body of Hermanus Carroll, a criminal who had been executed for murder, was dissected in the city of New-York, by Dr. John Bard and Dr. Peter Middleton, two of the most eminent physicians of that day, and the blood vessels injected, for the instruction of the young men then engaged in the study of medicine; and this, says our celebrated countryman, Dr. Hosack, was the first essay made in the United States for the purpose of imparting medical knowledge, by the dissection of the human body, of which we have any record.

'Six years after this, viz. in 1756, a course of lectures on Anatomy and Surgery, accompanied by dissections of the human body, was delivered at New-port, in the State of Rhode Island, by a Doctor William Hunter, a distinguished Scotch physician, who had been educated at the University of Edinburgh. To these lectures not only the medical students and physicians, but all the literary gentlemen of the town, were invited.

'But these efforts to give instruction by dissections and lectures were only temporary, and no plan was matured and carried into operation, for instituting a regularly organized medical school, till the one of Philadelphia, in 1765.

'The foundation of this school was laid by the enterprise and zeal of Drs. Shippin and Morgan. These gentlemen were both natives of Philadelphia, and of about the same age. Having completed their preparatory education, and graduated, Dr. Morgan at the College of Philadelphia, and Dr. Shippin at the college of New-Jersey, they both commenced the study of medicine in their native city; the former with the justly celebrated Dr. Redman, and the latter with his father, then a respectable physician of Philadelphia. After the usual course with their private instructers, they repaired to Europe to complete their medical studies in the public schools. Shippin first visited London, and spent a considerable time in the family of John Hunter; and it was while enjoying the instructions of this eminent teacher, that he imbibed his fondness for anatomy, and first conceived the idea of teaching the science in America. He also enjoyed the friendship of Mr. Hewson, Sir John Pringle, and Dr. Fothergill; the latter of whom took a deep interest in the improvement of medical science in America, and presented, through Shippin, a valuable set of anatomical drawings to the Pennsylvania Hospital, and particularly with a view to the founding of a medical school in connection with this institution.

'Shippin, after finishing his studies in London, repaired to Edinburgh, where he studied some time and graduated. He afterwards visited France,

and returned to his native country in 1762, with the full determination of opening a school of anatomy.

'Morgan first visited Europe in 1760, and after attending the lectures of Willian Hunter and others, in London, he spent two years in Edinburgh, and graduated at that University. From Edinburgh he went to Paris, and passed a winter in attending the medical lectures of that city. He afterwards made the tour of Holland and Italy. On his return to London he was elected a Fellow of the Royal Society. It was while Shippin and Morgan were in Europe that they concerted the plan of establishing a medical school in their native city. Accordingly, Dr. Shippin, on his return to America, in 1762, commenced a course of lectures on anatomy and midwifery, accompanied by dissections, to a class of ten students.

'The private lectures of Dr. Shippin were continued annually, until 1765, at which time Dr. Morgan returned, united in the enterprise, and laid before the Trustees of the College of Philadelphia a plan for establishing a medical school under their auspices. The plan was adopted; and Drs. Morgan and Shippin were soon after appointed professors of the school. And thus was laid the foundation of the medical school of Philadelphia. As the school increased in the number of its pupils, additional professorships were created, and different gentlemen appointed to fill the chairs. But the school had not been long in successful operation, when a rival institution was established, and connected with the University.

'This division of interest, at a time when the field was scarcely large enough for the support of a single school, produced contention among the physicians, and resulted in the mutual injury of both institutions. At length, in 1791, the two schools were united, by combining the talents of both in the present establishment. Since this period the school has been increasing in the number of its students, till it has arisen from ten, which composed the first class of Dr. Shippin, to nearly five hundred. From the most accurate calculation that can be made, it is computed that not less than seven thousand young men have received instruction within the walls of this school; and at this time there is scarcely a State, a Territory, or a District, in the Union, in which there is not one or more physicians who have attended its lectures. The Pennsylvania Hospital, and Philadelphia Almshouse, are connected with the school, to which the students are admitted for clinical instruction. Such has been the commencement and progress of the first medical school founded in America; an institution which has proved an honour and a blessing to the country, and a rival of the best schools in Europe.'

Having made this interesting sketch of the origin of the first Medical School in our country, Dr. Sewall goes on with the history of the other Universities. New-York which is the next, was established in the year 1767, but its progress was arrested by the Revolutionary War, and it never became eminent until within a

late period; arising from dissensions among medical men—dissensions which, we regret to say, still exist, regarding the government of the college.

In 1782, the Medical School of Harvard was established at Cambridge; an institution seemingly calculated, from the wealth of the University with which it has been connected, to become one of the most popular and distinguished, but which has nevertheless been always limited in the number of its students.

'Although the school was liberally endowed, and possessed some of the first medical talents in the country, its success was extremely limited, and its influence confined to a narrow sphere, until it was removed to Boston, in 1810. Since that period it has been rapidly improving, and at this time is one of the most flourishing institutions of the country. Its professors have been increased to five; and in 1824 it had one hundred and thirty students. The Massachusetts General Hospital, an extensive and well arranged establishment, has been recently erected, is opened to the students of the school, and is one of the best clinical institutions in the United States.'

In 1797, was established, by the exertions of Dr. Nathan Smith, one of the most distinguished surgeons of the United States, Hanover College, an institution, however, of no reputation.

In 1807, by the exertions of Dr. Davidge, the now flourishing School of Baltimore was established. This School, after contending with many difficulties, has become deservedly popular, on account of the ability with which all its chairs are filled.\*

In the year 1812, the College of Physicians and Surgeons of the Western District of the State of New-York, was instituted by the Regents of the University of the State, and placed under the direction of a Board of Trustees. The year following, the school was organized by the Trustees, and brought into operation with five professorships. In 1824-5, the medical class was composed of one hundred and twenty students.

In the year 1813, the Medical School of Yale College was instituted under the charter of that seminary, and established at New Haven, Connecticut. This school has five professorships. The number of medical students who attended the last course of lectures, was eighty-two.

<sup>\*</sup> Another cause of the success of the Baltimore School is, the Professors not requiring the students to attend every lecture each year; although, we regret to learn, that one or two of the professors continue the bad habit of giving private lectures to students, and receiving fees for the same.

'In 1818, the Medical College of Ohio was established at Cincinnati, in that State, but has since undergone considerable changes, and for a time the lectures were suspended; but its labours have recommenced under a new charter of the legislature, and the first course of lectures delivered after its re-organization, in 1824-5, was attended by twenty-two students. The present number of professorships is four. It has an hospital, to which the students are admitted for clinical instruction.

'In 1818 the Vermont Academy of Medicine was established at Castleton, in that State, under the charter of Middlebury College. This school has five professorships. The medical students attending the last course of lectures were one hundred and twenty-four.

In 1818, the Medical School of Transylvania University was instituted at Lexington, Ky. At the time of the first organization of the institution five professorships were established, all of which have been filled. This school has experienced the most rapid growth of any in the United States. The first course of lectures were delivered in 1819, to a class of twenty-six students. The medical class, in 1824–5, amounted to two hundred and thirty-five. An infirmary is connected with the school, which affords an opportunity for clinical instruction to the class.

In 1820, the Medical School of Maine was established at Brunswick, under the charter of Bowdoin College. This school has three professorships. Sixty students attended the last course of lectures.

'In 1821, the Medical department of Brown University, at Providence, Rhode-Island, was organized with four professorships. Forty students attended the last course of lectures.

'In 1822, the Medical School of the University of Vermont was organ ized at Burlington, and four professorships instituted. The medical class in 1824 was composed of forty-two students.

'In 1822, the Berkshire Medical School was established at Pittsfield, Massachusetts, under the charter of Williams College, of that State. This school has six professorships. In 1824 there were ninety-four students.

'In 1824, the Medical College of South-Carolina was established at Charleston. In this school there are seven professorships. Fifty\* medical students attended the first course of lectures delivered in 1824-5. The students have the privilege of attending the practice of the Marine Höspital.

'In 1824, the Medical School of Jefferson College, Pennsylvania, was established, and located at Philadelphia. This school has six professorships; and, though fully organized, has not yet been brought into operation. An infirmary is connected with the school, to which the students will be admitted for clinical instruction.

'We have, therefore, at this time, sixteen Medical Schools in the United

<sup>\*</sup> Increased to eighty this session, 1825-6.

States, besides the one recently established in this city, and which we are about to commence.'

The number of periodical works which have been published, is as follows:

'The New-York Medical Repository was the first Medical Journal published in the United States, and was commenced in that city in 1797, by the joint labours of Doctors Samuel L. Mitchell, Edward Miller, and Elihu H. Smith. Since the commencement of this work, a succession of periodical journals have been established, among which are:

The Philadelphia Medical and Physical Journal, commenced in	1804
Philadelphia Medical Museum, in	1805
Baltimore Medical and Physical Recorder, in	1808
New-York Medical and Philosophical Journal and Review, in	1809
American Medical and Philosophical Register, (at New-York,) in	1810
The American Mineralogical Journal, (at New-York,) in	1810
Eclectic Repertory, (at Philadelphia,) in	1811
Baltimore Medical and Philosophical Lyceum, in	1811
New-England Journal of Medicine and Surgery, (at Boston,) in	1812
American Medical Recorder, (at Philadelphia,) in	1818
Philadelphia Journal of Medical and Physical Sciences, in	1820
American Journal of Science and Arts, (New-Haven,) in	1821
New-York Medical and Physical Journal, in	1822
Western Medical Reporter, (at Cincinnati, Ohio,) about	1822
Hartford Analectic Journal of Medicine and Surgery, in	
Boston Medical Intelligencer, in	1823
Medical Review and Analectic Journal, (at Philadelphia,) in	1824
New-York Monthly Chronicle of Medicine and Surgery, in	1824
Carolina Journal of Medicine, Science, and Agriculture, (at	
Charleston,) in	1825

'These publications have, in general, been well sustained, and while they have been useful in disseminating medical information, and in exciting a more general taste for reading and inquiry, they have called forth the talents of physicians in every part of the United States, in exploring the medical topography of the country, investigating the causes of its epidemic and endemic diseases, examining its animal, vegetable, and mineral productions; and in publishing the results of their observations and discoveries to the world. They have thus been among the most efficient means of advancing medical science, and elevating the character of the profession. Several of the Journals which have been established are discontinued, and others have assumed a different title. Twelve only are published at the present time, though five more are soon to be added to this number.'

Having thus gleaned some of the interesting facts in the lec-

ture of Dr. Sewall, it becomes us to say something of the institution to which he is attached.\*

In 1821, the Congress of the United States instituted the Columbia College, and in 1824, the Medical School was organized, and in 1825, a course of Lectures were delivered. It would appear from a circular, that success surpassing the expectation of the professors, attended their first efforts. If the professors be able lecturers, and scientific men, there can be little doubt of the success of the college.

The situation, being the capital of the United States, would appear admirably calculated for a university. A national institution, where the greatest talent may be collected together, is a desideratum which has occupied the attention of our wisest and most distinguished citizens; among whom, our venerable ex-presidents Thomas Jefferson, and James Madison, may be mentioned. We

\* Dr. Sewall, in his notes, gives the following list of the universities and the number of students attending:

'Number of Medical Students attending the last course of lectures at the different schools:

University of Pennsylvania	١,		-		-		-		•		480
College of Physicians and	Su	rgeoi	18	of Ne	w-	York	,	-		-	196
Harvard College, -	-		-						-		130
Dartmouth College, -		•				-				-	80
University of Maryland,	-						-				215
College of Physicians and	Sui	rgeon	S	of the	W	ester	'n	Dist	rict	of	
the State of New-York	,		-		•				-		120
Yale College,		-				-		-		-	82
Medical College of Ohio,			-								22
Vermont Academy of Medi	icin	ie,		-				-		-	124
Transylvania University,	-		•				-		-		235
Medical School of Maine,				-		•		-		-	60
Brown University, -	•		•		~						40
University of Vermont,				•		•		-		-	42
Berkshire Medical School,	-						*				. 94
Medical College of South-C		olina	,					-			50
								Tot	al,		1970

'It will be seen that the preceding statement does not agree, in every instance, with those which have been published in the public journals; but the information here exhibited has been derived from one or more of the professors of each school, or from printed catalogues of the students.'

shall, by no means however, enter into the discussion of a topic which has occupied the thoughts of persons better enabled to give a correct opinion; we only say, we heartily wish that such an institution may meet with general support.

It has been remarked by Dr. Sewall, that

'If we have ten thousand physicians, as computed by a late writer, we have more than fifteen thousand practitioners of medicine, many of whom have never heard a public lecture, or seen a demonstration in anatomy; and, until medical schools be more extensively established through the country, many who enter the profession, must necessarily be deprived of the privileges of a regular education.'

We perfectly agree with the doctor in the truth of the position in the first paragraph; but cannot say we wholly agree in the latter.

The multiplicity of institutions in a country, are not always a just criterion of the progress of science in that country; and, although we most heartily rejoice in the rapid advances which are making in all branches of knowledge throughout our country, we cannot but regret to say, that institutions springing up so close to each other, as happens in the Northern States, will forward not one iota medicine or medical science, but injure the success of each other.

What, for instance, is the necessity of having two medical schools in the city of Philadelphia, or in the State of New-York? Surely one will answer every purpose.

When institutions become multiplied, the younger institutions, in order that they may attract students, and become popular, give greater facilities for attaining medical degrees; and as a general rule, we find those, who cannot obtain degrees from old established medical schools, become, quickly, candidates for medical degrees in those but lately established. This practice of cheapening degrees, that the institutions may become popular, is doing an injustice to the citizens at large.

It is not our intention to make invidious or personal remarks; but we cannot resist mentioning what we consider evils, in the plans adopted by some of our medical schools, assuming to ourselves the privilege of declaring, "Nothing extenuate or set down aught in malice." In proportion as medical schools multiply, it will be admitted, so should the advantages which they present, increase, and every means should be adopted, which would secure to the citizens of these United States, well instructed and scientific medical men. The mere attainment of sufficient knowledge to cure a fever, or sett or cut off a leg, is not enough. The elements of all the sciences should be studied thoroughly; and the medical man, when he graduates, should look as much to reputation, as subsistence, to the improvement of his country, as well as the improvement of his fortune. Judging from present appearances, we would say, that the medical aspect of our country, is highly promising. Still, there are some evils which there could be no harm in correcting, and, which now make our best universities inferior to the best in Europe. We will now briefly state the evils of which we complain, with our reasons.

I. The lectures should continue six months in place of four months. 1st. Because it gives time to the lecturer to discuss every topic fully, and the student to have them well impressed upon his mind. And, 2d. Eight months out of twelve, is too much time to be unoccupied in medical studies; and the student is apt to forget much of what he learnt of the profession.

II. The student should be required to stay three years, and not be compelled to take out every professor's ticket each year, but be allowed to take as many as he may think proper; so the ticket of each professor be taken once, during the several years requisite. The reasons for this are extremely obvious.

1st. Three years is little enough time for any one, however great his talents, and however assiduous and industrious he may be in the prosecution of his studies, to obtain a medical degree; for, no profession, if properly studied, requires greater labour and research than, and involves such a number of facts as, the medical profession; nor is there any profession so responsible or important in its consequences. To hurry over it, therefore, and obtain the semblance instead of the reality, is not only wrong, but sinful. Nor can too much caution be used in granting medical degrees; for a man may be licensed and yet be nothing more than an empiric. Professors may say, it is no matter how long they have been studying, provided they stand a good examination.

But examinations are miserable criteria of the acquirements of an individual; and we remember having heard a distinguished professor once say, that as a general rule, the dullest and most unscientific answered the greater number of questions, although they were answered like a parrot.

2d. The plan of requiring a student to attend each session, six different professors, is absolutely unjust and absurd. a student study correctly—Anatomy, Surgery, Practice and Institutes of Medicine, Midwifery, Chemistry, Materia Medica, and dissect and attend the Hospitals? I ask, if it is possible for a student to attend to all these different and difficult branches of study and other duties in one session: what distinct idea, in the name of common sense, can he have of either? The various subjects which he hears discussed in one day, form a heterogeneous medley in his brain, producing absolute chaos. He has no distinct idea of any particular branch, and the different subjects which have been presented to him. Let us now trace the process. A student attends the lecture on Anatomy; he listens to what the professor is telling Before, however, he can digest what he has heard, next comes the chemical professor; and in discussing his branch, entirely effaces from the mind of the student, all recollection of what the professor of anatomy had said, and so on with all the different branches; and at the termination of his day's labour, he is as wise as when he commenced, and has, at last, to resort to some elementary work as his sole guide and instruction. There is an old saving, (and old sayings, however homely, are sometimes worth remembering) that too much work makes Jack a dull boy; and we know of no better method of producing dullness, than the process we have just mentioned.

What is the consequence? Students, who wish to learn their profession, take out the tickets, but only attend a certain number of the professors, because they know, that otherwise they will learn nothing; and in thus conscientiously performing a duty towards themselves, they are taxed with the purchase of tickets, of which they would, for that session, rather dispense with. It may be urged in defence of this plan, in young institutions, that it is the only means of support, as the number, attending are too small for such a division; but this is no good excuse; still, insti-

tutions like Philadelphia, where five hundred students attend, no such excuse can be offered; and we are very well satisfied, that from seven to eight thousand dollars, is a very high salary, for lecturing four months. We have mentioned these what we deem imperfections in some of our medical institutions, because from the zeal and ardor which is exhibited throughout our country in the attainment of medical knowledge, there can be no reason why our medical institutions should not be equal to any in the world; and it becomes every patriotic medical man, fairly to expose every thing, which has any tendency, to prevent this result.

The university of Philadelphia, from its long standing, and high reputation, ranks the first among all the medical institutions of the United States. The professors of that institution, receiving so much honour and profit as they do, owe a heavy debt to their country. Much is given them, and much is expected from them. They, therefore, must take no umbrage in our mentioning a practice which some of them have instituted, which we unhesitatingly declare to be derogatory to the dignity of professors, and which, if persevered in, will degrade that institution as much as it was elevated, under the fostering care and intellect of its earlier professors. The practice we allude to, is forming what are called private classes, disconnected with the college; for which a student has to pay a large sum of money to attend. We object to this procedure.

1st. Because a professor has enough to do to attend faithfully to his chair.

2d. His profits, from his chair, are as much as he should crave; and it is taking an advantage of his situation to create a monopoly; thereby keeping down young men of talent, who, by commencing with private instruction, will be enabled to fill with ability the professional chairs, whenever they become vacant.

3d. It opens the way to unfairness in the obtaining of a medical degree, and, at all events, acts as a compulsion upon young men, to go to the further expense of taking out these private tickets, that there might be a greater chance of obtaining a degree. Without extending our objections any further, we think we have abundantly shewn the impropriety of such proceedings. This practice, we do not pretend to say, is confined to the Philadelphia univer-

sit; but it was first commenced there, and it being so high in public estimation, should be the first to do away with any thing which can, in any degree, cast a stain upon the character of our medical institutions. For our part, we most sincerely wish, that this money making practice, which puts science on the footing of trade, could be eradicated from all of our schools.

In thus writing freely our sentiments, we again declare ourselves free from all malice or bad feeling. Our motive has been pure—to open to public gaze, what we consider serious and grievous evils; and if, in thus acting, we should give offence, we must bear the brunt of our offending.

The Columbian College, we have already said, we hope may succeed, as well as all others which are not calculated to rise upon the downfall of other institutions. But there are two medical institutions which have been of late years established, that will have an important effect on the countries in which they are established, in process of time. We allude to the Transylvania University in Lexington, and the South-Carolina Medical College in Charles-The former has already been placed on a footing with any institution in the United States, both as regards the talent of its professors, and the advantages attached to it. The latter has commenced under very favourable circumstances—has met with encouragement far beyond expectations, and received pecuniary aid from the city, and the state—and we can see no reason why it should not succeed. It is important, that a country so diversified in point of climate, as well as in the habits of the people, as the North, South and Western States exhibit, should have institutions located in these different places, for instruction in the higher departments of knowledge; and without entering into particular reasons, for which we have not space or inclination, it will be obvious to every reflecting mind, that every citizen is bound, by the patriotism which he proudly claims, to promote every thing which will increase learning and science in this country.

In concluding our review, we cannot resist expressing our satisfaction, in perusing the lecture of Dr. Sewall; and we think it admirably illustrates the motto—"multum in parvo."

## ARTICLE VII.

REVIEW.—Original Communications made to the Agricultural Society of South-Carolina; and Extracts from Select Authors on Agriculture. 1 vol. 8vo. Charleston—Miller. Price \$1.25.\*

However widely political economists may differ on the question, whether Agriculture is the sole source of the wealth of a nation, it must be allowed that the happiness of a country greatly depends on its properous state. The reflecting mind would view the state of this important branch of industry in South-Carolina, with the most painful forebodings, if it had not the consolation of reflecting, that in the "mighty march of knowledge," with its concomitant, improvement, some of it must rest here to enlighten and improve us in the science of agriculture.

The appearance of the present work, emanating from so respectable a source, as the South-Carolina Agricultural Society, through the zeal and patriotism of some of its most distinguished members; among whom, the venerable and patriotic Gen. Thomas Pinckney, its zealous Secretary, Charles E. Rowand, and the Chairman of Committee on publication, William Washington, stand pre-eminent; will be hailed by the friends of agricultural improvement, with feelings similar to those of the prophet when his servant answered to his anxious inquiries, "Behold, there ariseth a little cloud out of the sea, like a man's hand."

The "Report" which has been adopted as a preface to the work, feelingly alludes to the low state of agriculture in this part of the country:

'The depressed and wretched condition of our agriculture in the lower districts, with very few exceptions, must be obvious to the least observing traveller, and is well calculated to excite the regret of the patriot and friend to improvement. The dilapidated state and condition of most of our farms and plantations, furnish abundant evidence, that there is something wanted to put our agriculture, generally, upon the footing on which it ought to stand.'—Report, p. iv.

<sup>\*</sup> This review was first published in numbers in the "Charleston Mercury;" being struck with the ability with which it was written, and believing it would be an interesting and valuable article for the planter, we requested the author to revise and adapt it for this Journal. Editor.

This lamentation brought forcibly to our mind, a similar one. recorded in the 'Book of Wisdom:'-"I went by the field of the slothful and by the vineyard of the man void of understanding; and lo! it was all grown over with thorns: nettles covered the face thereof, and the stone wall thereof was broken down. I saw and considered it well: and I looked upon it and received instruction." To reflect frequently on our evils, although painful to the feelings, is salutary, if it leads to an investigation and a correct conclusion of the source of our misfortunes. To know the nature of a malady is of the first consequence in applying a corrective. The checks on our improvement in agriculture must be sought in a deeper source, than the loss of the "extravagant prices for our productions" in the "Halcyon days" which are The Northern States have experienced a great change in the prices of their produce, and a much greater want of a market for it, than we have experienced, and yet the science of agriculture has progressed with them, while with us, in the main, it is almost stationary, and in some parts actually retrograding.

'Whilst our brethren at the North, are making every exertion to extend the knowledge of agriculture, by establishing societies in every section—whilst agricultural schools are springing up in various parts of Europe, under the patronage of government, shall it be reserved for us a one, to leave it to the guidance of ignorance, prejudice, or accident.'—Report, p. v.

We trust there is too much laudable pride in the planters of South-Carolina, ever to permit her to arrive at this climax of supineness; indeed, we have the earnest of better things already; witness the Society formed on Edisto Island, composed of highly intelligent and practical agriculturists; men, who would be ashamed to plead in excuse for bad husbandry, 'that their fathers did sobefore them;' also, the newly formed societies of St. Paul's, Beaufort and St. Helena Island. It would tend much to the diffusion of knowledge, if the different agricultural societies in the lower districts, or as many of them as could conveniently do it, would keep up an active correspondence with each other. Perhaps, this might be best effected, by considering the South-Carolina Agricultural Society, as the parent one; thus, the different communications to each separate society, would eventually be communicated to all the societies connected with the parent one.

It is an indisputable fact, that the progress of improvement, has been slower in the science of agriculture, than in almost any of the sciences which contribute to the happiness and dignity of man. We will not stop to inquire into the leading causes of this backwardness, further than to notice a cause which appears to have escaped the attention of writers on the subject-an unwillingness, generally, in practical agriculturists to risk their money in experiments, new implements or labour, necessary to an improved or different mode of culture; not that they are more miserly than the members of other professions; but, from having little money pass through their hands in proportion to their property or incomes, it naturally leads them to attach more importance to the old adage, "a bird in the hand is worth two in the bush," than it really de-It is not uncommon for a planter or farmer, with an income of five to ten thousand dollars per annum, to have less money pass through his hands, than the poorest shopkeeper with whom he deals.

The high reputation of a numerous class of our planters for intelligence and enterprise, precludes the idea that apathy to their own interests, and the welfare of the state, can be numbered among the leading causes why South-Carolina has not kept equal pace with other states in the Union, and some countries in Europe, in the science of agriculture, and in a practice of its art commensurate with the increased knowledge of its principles. The reason why we are more backward in our agriculture than other states and countries, appears resolvable into two leading causes;—the universal desire of the planter to possess and cultivate more land than he has either capital or physical force to work in the best manner; and in an overweening partiality for two staple crops, which once commanded a price that might seem to justify an almost exclusive attention to their culture. Mr. Cobbett, in the preface to his 'American Gardener,' in his usual sententious style, observes, "to desire to possess land is an universal desire; and vanity makes us prefer quantity to quality. You may prove as clearly as day-light, that it is better in certain cases, to possess one acre than a hundred, but where do you find the man that prefers the one acre?"

VOL. I.

The perfection of mechanical science, is to obtain the highest possible result from the least given power; the perfection of agricultural science, is to obtain the most valuable produce, in the greatest quantity of the best quality, with the least expenditure of labour or money. When we view the wasteful expenditure of labour, in connexion with its uncommon high price in the Southern states, and take into consideration the large sums we annually spend in importing from our sister states, what we ought to raise ourselves, it leads us, almost to wonder how we retain a political Whilst our Northern brethren, with whom labour is comparatively cheap, are availing themselves of the services of the plough, and making the mechanical arts subservient to their interest, in saving-labour machines, we are content to leave the whole modus operandi to be performed by main strength. Whilst they are assisting nature by manure, improved tillage, and rotation of crops, we leave her with the exception of an imperfect tillage to her own unassisted endeavours. They divide their farms into enclosures with permanent fences, gates, &c.; we expend nearly the same labour annually to protect the fields which we plant. We cannot resist the temptation to quote Mr. Cobbett once more, on the advantages of permanent fences; we should like to have seen his remarks on the subject in the 'Selections:'-"And why should not America possess this most beautiful and useful plant? (The Hawthorn.) She has English gewgaws, English play-actors, English cards and English dice, and billiards, English fooleries, and English vices enough in all conscience, and why not English hedges, instead of post-and-rail and board fences? If instead of these steril-looking and cheerless enclosures, the gardens and meadows and fields, in the neighbourhood of New-York and other cities and towns, were divided by quickset hedges; what a difference would the alteration make in the look and in the real value too, of those gardens, meadows and fields." The practicability of raising live fences in this country, is fully demonstrated by the complete success which has attended Mr. Rowand's experiments with the Non-Descript. The expediency of adopting live fences in preference to rail fences, where timber is plentiful and of little value for other purposes, is yet a doubtful question, but can no longer be so, when grazing on each plantation

shall be made subservient to the general interest of our agriculture, and rotation of crops, on fixed principles, be introduced into our system of husbandry. The decided advantages attending the division of farms, in other countries, into convenient enclosures by live fences, speak loudly in their favour. It is not yet determined what plant is best suited to the purpose, in this climate. The Hawthorn is the plant most highly esteemed in England for making a hedge, and succeeds well, both on light-sandy and heavy-clay soils. It is there called a quick-set hedge. "The truth is, however, that it ought rather to be called an everlasting hedge; for, it is not, as will be seen by-and-by, so very quickly set; or, at least, so very quickly raised. If I [Mr. Cobbett] could carry my readers into Surrey, in England, and shew them quick-set hedges, I might stop here, and only provide the seeds or plants. But, not being able to do that, I must, as well as I can, describe the thing on paper. These plants are those of the White Thorn. This thorn will, if it be left to grow singly, attain the bulk and height of an apple-tree. It bears white flowers in great abundance, of a very fragrant smell, which are succeeded by a little berry, which, when it is ripe in the fall, is of a red colour. Within the red pulp is a small stone; and this stone being put in the ground, produces a plant, or tree, in the same manner that a cherry-stone does. The red berries are called haws. are sown in drills like peas, and they are taken from that situation and planted very thick in rows, in a nursery, where they stand a year or two, if not wanted the first year. Then they are ready to be planted to become a hedge."

To return from the digression on live fences, we would observe, the greatest waste of labour is in the never-ending planting—planting on the same ground without any renovation of the soil by manure, until it is so worn out, that it will not produce a half crop, the natural tendency of which, is to embarrass the planter: more land is planted with sanguine hopes of success, to relieve him from former difficulties; this, probably, consummates the business; a lost crop follows, creditors become clamorous, and judgments succeed; the final consequences may easily be conceived. Could our planters be persuaded to plant less ground, and cultivate effectually the reduced quantity, it would tend more to ad-

vance the agricultural prosperity of the state, than permanent high prices for its produce. The point of Mr. Coke's standing toast at his late agricultural dinners, "long leases and good tenants," rests on the axiom, that land to be successfully cultivated, must be kept in heart. The English farmer, farms as if he were the proprietor of the soil; the Carolina planter, plants as if he were a tenant-at-will. The former, when he hires a farm on lease, is desirous of getting it into as high a state of cultivation as possible, during the first part of the lease, trusting for his reward to an increased production, with a reduction of labour and expense in the latter part. The latter, on his own plantation, begins, and goes on, as if each present year was his last year of planting it. The agriculturist who exhausts his land by over-cropping, may justly be compared to the boy in the fable, who killed the goose which laid the golden eggs. A communication in the American Farmer, informs us, "they make no use of Plaster of Paris, as manure, in England. But the quantity of stable manure they put on the ground is amazing. I never saw, except on asparagus beds, any thing like it. I assure you, it is unpleasant to ride near a newly ploughed field." Although in England, they use no Plaster of Paris, as manure, in the district from which the gentleman wrote, large sums are annually expended there, in the purchase of rape-cake, for a similar purpose; (rape seed, from which the oil has been extracted, formed into a cake by the process of crushing;) it is chiefly employed in manuring for turnips, and a top-dressing for wheat. About 800 lbs. to the acre is an average quantity when used for turnips. If the gentleman's olfactory nerves would have allowed him to go into the field, we are inclined to think he would have found but a small portion of the manure he saw used, was made in the stable, but obtained from the yard, where oxen had been grazed during the winter, principally for the purpose of converting the straw raised on the farm into manure. How greatly must the advantages to be derived from manure, rise in our estimation, when we consider that the amazing quantity used, in the instance just cited, could only be for the purpose of obtaining a larger crop of grain or turnips, from which the farmer expected a profit, after deducting the expense of rent, tythe, poor-rate, taxes, manure, tillage and seed; and yet that

grain was worth little more, if any, per bushel, in the market of that country, than similar grain is in this. A question naturally arises, how is this amazing quantity of manure procured? every farmer being more or less a grazier. He does not expect, if he throws his straw into the yard, that the rains of heaven alone will convert it into profitable manure, but looks for this good office from a herd of cattle, fattening in the yard, during the winter. The value of manure is so duly appreciated in that country, that if a hard winter, or other cause, obliges the provident farmer to feed his lean cattle, or other stock on straw, he looks on every forkful which is consumed, as a deduction from his succeeding crops. Landlords are so careful that their farms should not be worn out, that they generally covenant their tenants, not to carry off their farms, any hay, straw, or turnips, besides prescribing a rotation of crops and fallows. Contrast these proceedings with the general practice of the agriculturists in South-Carolina, especially those in the lower Districts. Who of her planters derive any benefit from their stock, further than a partial supply of meat for their own tables; and, perhaps, sending to market a few calves and sucking pigs? Many do not derive even this partial advantage, but are compelled, through negligence, to purchase their bacon, hams and salt beef, and some few, even their butter. Where are those pens of cattle to be found, treading the straw, marsh, pine trash, &c. into what has been justly termed the farmer's mint? Where are the flocks of sheep to be seen, fertilizing the very soil which is giving them support, and eradicating weeds wherever they feed? In some instances, the stock is made subservient to the interests of agriculture, by cow-penning, a few acres; but what a slow improvident way of manuring is this; fifty head of cattle would not cow-pen, during a season, one-tenth of the land, which they would make manure for, if confined the same time, in stationary pens kept well littered. We are acquainted with a very intelligent and successful planter, on one of our Seaislands, who values each head of cattle on his plantation at ten dollars per annum, only for the manure which it makes. On his smaller plantation, where he works about twenty-five hands, he has carted this season on his land, nearly ten thousand one-horse

cart loads of manure and mud, employing oxen altogether to draw the carts.

Nothing has contributed so much to the improvement and prosperity of agriculture in Great Britain, as the closely uniting agricultural and pastoral pursuits on the same farm; each benefit the other; the former supplies the means of making the latter profitable; the latter converts the straw, &c. into manure, which is returned to the soil, to benefit the former. The period is not so far distant, as to be beyond the pale of history, when England gave an exclusive preference to pastoral pursuits; these were inadequate to the support of her increasing population, which compelled her to combine the agricultural with the pastoral. Her exclusive preference to pastoral pursuits was the subject of public complaint, in the reign of Edward III.

To the many causes which act as drawbacks on our agricultural prosperity, a new one has arisen in the 'vicissitudes of commerce,' by a new competitor in the market, for one description of our staple crops, in which we feared no rival; but from which, if we judge by the experience of this year, no great harm will All these things may be made 'to work together for our good,' if our planters would individually seek their own interest. There is no state in the Union, which appears to possess the resources of the state of South-Carolina, and yet, through her exclusive preference to the culture of rice and cotton, she is mostly dependent on her sister states, for what she ought to furnish herself, and which she might do, in a great measure, by improved culture, without deducting from her valuable favourite produc-She depends on Kentucky for horses, hogs and cattle; on North-Carolina and Virginia, for corn, peas, hams and bacon; on Maryland and Pennsylvania, for oats, rye, and flour; on New-York and Massachusetts, for hay and mess beef and pork; on the Eastern States, for a long list of et cetera, comprised in the terms 'Northern produce,' and 'notions.' In the year 1822, there were imported into the port of Charleston, of corn and peas, principally the former, 50 whole and 52 part cargoes from North-Carolina; 26 whole and 11 part ditto from Virginia; 13 whole and 33 part ditto from Maryland; 9 whole and 10 part ditto, from ports North of Maryland; and one whole ditto from Georgia; making a

total of 99 whole and 106 part cargoes; average the whole cargoes at 2000 bushels each, and the part cargoes at 1000 bushels each, they give a total of 304,000 bushels. The prices that year averaged 87 cents for corn and peas, and 43 cents for oats. It is computed there were imported, into this state during the same period, about 25,000 bundles of hay. What a reproach on our industry. If a Carolinian heard it insinuated, when from home, that his native state would not produce hay sufficient for her consumption, with what indignity would be repel the insinuation, and assert the rapid growth of the crab-grass, and the excellent hay which it makes. It is a fact, that horses and cattle prefer our own hay when properly cured, to the Northern hay. If a horse is left loose, in a stable with two stalls, and the rack of one is filled with Northern hay, and the rack of the other filled with our crab-grass hay, it will eat altogether of the latter, in preference to the former.\*

We were greatly disappointed in not finding among the original articles in this work, the excellent anonymous address, lately read before the Society, and published by their order, in the journals of the day, on the subject of agricultural education: it was certainly most highly deserving a place in the work, and could only have been withheld for reasons with which we are unac-The agricultural profession is more misjudged by casual observers than any other. It is, by them, esteemed a profession of ease and independence, requiring but little talent or application to be master of it; but how many find to their cost, after it is too late, that it is one, which requires steady application, united to close and patient observation; one, in which extensive practice must be united to theory, to become a proficient in it. To become a judicious planter, requires something more than a general knowledge of the routine of business on a plantation, and when

<sup>\*</sup> It was not until after we had sketched these introductory remarks, that we saw in an early number of the American Farmer, the able exposition of our imperfect agriculture in General Davie's admirable address to the Columbia Agricultural Society. We would apply to that address, what the celebrated Robert Hall said of his friend Toller:—"If Toller could make the whole world hear, it would need no other preacher."

to sow and when to gather; the making or losing of a crop often turns upon what might seem to the unobserving, a trivial cause.

We think much praise is due to the gentlemen who composed the committee on publication, for the useful selections they have made; which, added to the original communications, render the work a vade mecum for the Southern planter. The Report, which is highly creditable to the committee, we understand was written by their esteemed chairman; we would rather have seen it, without its latin quotations.

These remarks have extended to a length, which we did not at first contemplate; we close them thus abruptly to introduce to our readers the body of the work. We did intend to have given an abstract of its contents, but suppose it unnecessary, from the publicity which the Society has already given them through its advertisements.

LETTER I.—On the embankment of Tide Lands, by Gen. THOMAS PINCK-NEY.

ART. 33 .- On the embankment of Rivers.

ART. 38 .- On reclaiming Salt Marshes.

We class the above articles under one head, as it is probable they will be read together by those who are interested in reclaiming marsh lands, as well as by those whose lands are subject to be inundated by tide waters. The improvement in the construction of banks, proposed by General Pinckney is so apparent, that it must carry conviction to all who compare it with the older method of constructing them. The General varies considerably in the width of the base of the improved bank, 26 feet, compared with its height, 5 feet, from the one proposed in Art. 33, 2d Sec. that asserts, the base of an embankment should be three times the breadth of its height, and its width at the top, one third of that height. If double the strength of a bank, whose height is 5 feet, its base 12 feet, and its top 8 feet, (or as 12 is to 26, as proposed by the General) will offer sufficient resistance to the water, a much less base than 26 feet, will be found to answer the purpose; for the resistance increases in a compound ratio, as the base is to

its height, and not in the simple ratio as assumed in the communication. The General further remarks, that if the bank recommended, is not sufficiently elevated to keep out the highest spring tides, a greater elevation must be given, observing always to have four feet base to one of height.

'And when from freshets or any other cause, banks are liable to be frequently overflowed, a much wider inner talus should be formed. In our high river swamps, I should be of opinion, that the inner ought to be equal to the outer slope.'

It is highly important, especially if the materials of which the bank is formed, consist principally of peat, and clay or mud mixed with a considerable portion of sand, to have the bank equally strong in the inner as on the outer side, in a situation where it is liable to be overflowed by freshets or gale tides, as the breach in the bank is more liable to be made, when the water presses back to the river on the ebb tide; especially where the bank crosses a creek, or low spot of ground. We have never seen a ditch and bank constructed on the principle recommended by the General, but it appears to us liable to an objection, which we will state; acknowledging at the time, our's is but theory opposed to practice, and our theory will be only as a feather in the scale compared with the General's practice. If the bank is intended to run parallel with the river, or nearly so, the small margin between the ditch and the river, appears to us, liable to be broken down, especially if the land is porous, when there is a freshet or heavy rise of water in the river; which would soon render the side and bed of the river uneven and rugged, and in process of time bring the brink of the river, in places, to the foot of the bank, which would be undermined and washed away by its current. On the contrary, was the bank thrown up 30 feet from the side of the river, with sufficient base and height to resist the force of water acting against it; and where practicable, the ditch dug at a proper distance, in the inner side, of sufficient width and depth to furnish the earth and sods for raising the bank, it would be less liable to sink, or to have an extensive breach made in it, than the bank and ditch proposed by the General. We are supported in this. opinion by the article "On embankment of Rivers"-it remarks,

"The line of embankment should be kept at a proper distance from the edge of the river bank; and the stuff of which it is formed, should all be taken from the land-side, to prevent breaking and loosening the surface on that next the river, which would expose it to encroachment from the current. If there be any heights in the fields adjoining, within a short distance, the earth may be partly taken from there, and from the cut that may be necessary at the back of the embankment, for receiving the surface water from the fields. The earth from this cut, should be removed with a gradual slope backwards, so as to give an easy descent from the surface to the bottom of the drain."

We have occasionally observed an error in the construction of dams for roads, or other purposes, over marsh or swamp grounds, by digging a ditch on each side of the dam; the tendency of which is to permit the water to ooze through, under the dam from ditch to ditch, thereby rendering the foundation of the same, rotten, which makes it liable to sink, pressing the sides of the ditches in at the same time. Whenever it is practicable to form the dam by cutting a ditch only on one side of it, the dam will be found much firmer, requiring less repair from ordinary injuries, and much more secure in case of inundation.

The article on 'Embankment of rivers,' will be read with profit and pleasure by those interested in embankments; although the first section, is not as strictly applicable to what is required in this country, as the second section is, 'On the embankment of low grounds on the side of rivers to prevent inundation;' yet it contains much valuable information on the best manner of altering the course of rivers, and rendering them less liable to overflow their banks, when swollen by freshets. Our attention was forcibly arrested by the simplicity of the plan adopted by the late Mr. Sweaton, for the embankment of the river Spey in its course through the park of Gordon Castle. His plans were characteristic of himself—simplicity united to firmness.

It is sincerely to be hoped, that the present work, although the original communications are few in number, will be the means of inducing our enterprising planters to communicate to the public their success in different attempts for improving our agriculture, and their failures, in experiments, to act as beacons for others to

avoid the same course. We feel surprized that no communication should have been made to the Society, on the reclaiming of marsh lands. It is a subject well worthy of the interest it is exciting at the present day. Mr. Swartwout's opinions of its importance to the country are very just:—

'The immense tracts of marsh to be found all along the coast, and on our rivers, could not fail, when thoroughly recovered, to produce the richest and most inexhaustible arable and pasture grounds. This fact, although not generally known, or admitted, is nevertheless true, and one of the greatest importance, especially when taken in connexion with their proximity to an eternally increasing market. Of what consequence is it to the farmer in the interior, if he can raise 100 bushels of corn to the acre, or three tons of the best timothy, if he can procure for the one, only ten or fifteen dollars, and for the other, perhaps, not ten dollars. Agriculture when pursued with a view to profit, will never succeed remote from a market. And hence the importance of converting, if possible, every acre of water land on the sea board from Georgia to Maine, into tillable ground. And I am ready to venture the assertion, that no well-directed and well-executed design of converting salt-marsh into fresh meadow, if conducted on proper principles and firmly persisted in, has ever failed. Failures, no doubt, are numerous, but they are the failures of ill-judged and improperly executed designs, and not the fault of the land itself. A badly constructed dyke, grounds not drained sufficiently deep, after being dyked, owing to a want of fall in the tides or other causes; and, finally, the preceding objections out of the question, a want of judgment or diligence in the cultivation of the soil, must produce disappointment. But where the works have been made to exclude the water, and the grounds within are well drained and well cultivated, there is hardly a possibility of a failure. For ordinary marsh contains all the necessary ingredients of the most perfect soil.'-p. 174.

Some successful experiments which have been made in this part of the country, fully demonstrate the practicability of reclaiming a great portion of the marsh in this state; and of its adaptation to the culture of our staple products. We have this season seen one hundred and fifty acres of cotton, growing on reclaimed marsh, which looks as well, or better, than the average of highland cotton in its neighbourhood. Part of the land was first broken up last year. Similar land, which was broken up a few seasons since, and planted in cotton last year, but left fallow this year, exhibits a remarkably fine growth of crab-grass. It is a

peculiar feature in marsh land, that its spontaneous growth quickly changes, after being banked in and broken up.

The gentleman who wrote on cotton (article 39,) appears to have abandoned the cultivation of the black-seed cotton, on his reclaimed marsh, on too slight grounds, judging solely from the statement in the communication; for the excellent crop he made on his marsh land, the year preceding his losing a crop, on the same land, was certainly more flattering than the last crop was discouraging; as the latter crop does not appear to have failed from any fault in the land, but from an unfavourable season. We suspect, he has little high land, that will produce, in the most favourable season, as much weight to the acre, of either black or green seed, as his reclaimed marsh did, viz. 276lbs. of black-seed, and "503lbs. of saw-ginned cotton to every acre."

A great saving of labour would accrue, and much disappointment avoided, if those who purpose reclaiming marsh lands, would propose to themselves a systematic plan, or what would be still better, map-out where they intend the ditches, banks and dams should run, keeping the ditches as parallel to each other as the fall of the land will admit. The advantage of parallel ditches, is greatly felt, in quarter-draining, as the surface water can be led out at each end of the drain. The adoption of this plan will frequently prevent the work which has been done one year, from being rendered nugatory, or to be undone by the operations of a succeeding year. When reclaimed marshes are intended for dry culture, it is of the first importance to have the ditches and trunks of sufficient number and capacity, to drain off the heaviest flood of water in the shortest time; for it generally happens, that when there is most water on the surface of the land to be drained off. the river or creek into which the ditches empty, are most swollen; leaving but a short time for the trunks to work, during a tide. An error is sometimes committed, through the want of a systematic plan of enclosing and draining, in giving the main ditches too many angular turns, instead of letting them proceed in as straight a course as possible to the outlet. It is advisable to let the main ditches increase in width and depth, as tributary ditches or drains keep emptying themselves into them. When there are large bodies of contiguous marsh, it is generally expedient to raise a bank

or dam between the marsh and reclaimed land, to prevent the surface water of the former from overflowing the latter; in which case, it is better to dig a ditch only on the reclaimed side of the bank or dam, for if one is dug on both sides, with the same outlet, during the time of floods or heavy falls of rain, probably there will be more water pressing through the trunks from the marsh, than from the reclaimed land. Mr. Swartwout establishes an important point, in breaking up marsh lands, in his answer to the third quære;—the ability to work them with the plough in the first in-To bed these lands for cotton, at first, with the hoe, is a very laborious and slow process; requiring four hands to bed a task a-day. We were informed by the gentleman, alluded to before, that in his first attempts to cultivate marsh, he employed nine hands to accomplish the same work. The answer to the same quære also, establishes another important point-'What length of time will be required where the banks and sluices are completely tight, to freshen and prepare very salt marsh, for grass seeds'-"When we commenced ploughing, the marshes in many places, consisted entirely of tough roots, to the depth of from four to twenty feet, and yet this ground by ploughing, in thirty-six months from the time of embanking, produced from one to two tons of timothy hay per acre." Decisive evidence of its freshness.

## LETTER XII .- On Cotton Planting, by Robert Raiston.

The fanciful St. Pierre, in his 'Studies of Nature,' suggests the idea, of the chasm that would be caused through the animal world, by the total extirpation of the meanest insect which moves on the face of the earth. How much greater would be the change in the moral and political world, if the important plant, cotton, no longer held a place in agricultural pursuits. The change it would cause in the destiny of the millions, who are engaged in promoting its growth, and in its manufacture, and the influence it would have on states and empires, is past the conception of the moral or political economist. That great events frequently follow trivial causes, and that very important results sometimes arise from small

beginnings, are trite observations. It may reasonably be doubted whether a more important result ever arose from so small a beginning, as the introduction of cotton planting into this country. Cotton forms one of America's principal items of export; it has gone hand-in-hand with the wisdom and virtue of her statesmen, and the valour and prudence of her army and navy, to raise her to her present high station in the scale of nations. What mind was capacious enough to conceive to what an immense extent the cotton trade was destined to arise, not only here, but in Europe and Asia, when sixty-four bags only, were imported into Liverpool, from this country, in the year 1791? Dr. Johnson's expression of private fortune, when, as the executor of Thrale, he attended the sale of the brewery, 'that they were not assembled there, to sell a few casks and vats, but the potentiality of a fortune beyond the very dreams of avarice,' would be beggarly, to describe the influence which cotton exercises over the monied world, and over the happiness of the poor in their humble earnings. duction of cotton into this country, was probably more the effect of accident than design; for it appears by a memorial on the colonization of Georgia, presented to the Duke of Newcastle, a Secretary of State, in the reign of George I. by colonel John Purry, (a native of Switzerland, who settled in Georgia, and celebrated his name by founding the town of Purrysburgh; that there is a certain latitude on the globe, which he fixes at 33 deg. eminently calculated for the raising certain rich productions of the earth, amongst which, he enumerates silk, cotton, indigo, &c. It might be the want of a market for the article, which induced rice and indigo to take precedence of cotton in the staple products of the Southern states; for it appears the first importation of cotton into England from the East-Indies, did not take place until the year 1798; when about 4,600 bales were brought into that market. In the following year, nearly 20,000 bales were brought into the ports of London and Liverpool from the East-Indies, and nearly 26,000 from this country.

Cotton is the product of every quarter of the globe; and although the United States is ranked among the last countries who have introduced its growth, yet to South-Carolina and Georgia belong the honour of growing the finest cotton in the world. It is

the spontaneous production of Asia, Africa and South America, and has been transplanted into North America and the Southern parts of Europe, where it forms a very considerable article of commerce; and its relative value is determined by the strength, length, fineness and colour of its staple; and on these qualities depend the use to which it can be applied in manufacture. From the best Sea Island, a twist can be obtained, by the aid of machinery, consisting of two distinct threads of 320 hanks to the pound, each hank measuring 840 yards, which give a distance of upwards 300 miles of single thread, in a pound of cotton. mere Disjouval, according to his memorial presented to the Academy of Arts and Sciences in Paris, rates the scale of excellence in cotton, which is distinguished by its fine silky fibre, the depth and peculiarity of its colour, and the height and permanency of the plant, by the geography of the country which produces it, as it approaches to or recedes from the equator. In proportion as we recede from the equator, says this author, these strongly marked characters gradually disappear; the fibre becomes coarse, its colour white, and on the shores of the Mediterranean, we behold the lofty tree of Hindostan dwindled down into a stunted annual This postulate, if it hold good generally, has a formidable exception in our valuable Sea Island. It is true, that some of the finer cottons which are raised, are the production of countries nearer the equator, but they are manifestly deficient in the necessary qualities of length and strength of staple. Other countries are but little acquainted with the best raw cottons of China and the East-Indies. The delicate and beautiful fabrics of the East, fully test this. The unrivalled nankeens of the East-Indies and China, indicate a deeper yellow in their cotton than the temperate zone is in the habit of producing. We say, in the habit of producing, for, from the specimen of Egyptian cotton, shown us by captain Joseph Jenkins, grown (we believe) in his garden at Togadoo, if it becomes a matter of importance in this country, to raise nankeen cotton, our climate and soil are not unadapted to its The pair of gloves which were manufactured from the same cotton, had been washed and exposed to the sun many times without losing any of their original deep nankeen colour.

The following are the principal varieties of cotton known in commerce, enumerated in the order of their relative value:—Sea-Island, Bourbon, Pernambuco, Maine or Santee, Bahia, Maranham, Surinam, Demerara, Bahama, New-Orleans, West-India, Smyrna, Tennessee, Upland, Carthagena, Carraccas, Madras, Bengal, and Surat.

It is somewhat singular, that in the early introduction of woollen fabrics into England, certain of them should be named cot-From this misnomer, an erroneous inference has been drawn in favour of cotton manufacture existing in Lancashire, as early as the reign of Henry VIII., but this supposition is completely overturned by an act passed in the reign of Edward VI., 1552, "for the true making of woollen cloth," in which it is ordered, that all the cottons called Manchester, Lancashire, and Cheshire cottons, full wrought to the sale, shall be in length twenty-two yards, and contain in breadth three-quarters of a yard in the water, and shall weigh thirty pounds in the least. Hence, it clearly appears from the weight of the manufactured piece, that it could not be composed of cotton, but a species of woollen cloth of But the testimony of Camden, to this point, is the coarsest kind. decisive; of Manchester in 1590, he says, it excels by the glory of its manufacture of woollen cloths, which they call Manchester The fact is further substantiated by the circumstance, cottons. that at the present day, there exists an extensive manufacture of a coarse kind of woollen cloths, known by the name of Kendal cottons. It cannot be ascertained at what precise period, cotton was first introduced into England. Sixty years ago, it was amongst the humblest of her manufactures, being chiefly confined to the cottages of the poor in the Western part of the country. The population engaged in the manufacture of it, in 1750, is thought not to exceed 20,000; and in twenty years after that period to have little more than doubled that number. "From this state of comparative insignificance, it burst forth at once with a vigour and activity which has no parallel, and became in a few years one of the most flourishing and important branches of her national in-This wonderful revolution in the manufacture of cotton, had its beginning from so trivial a cause,—the accidental falling of a spinning wheel,—that it is surprising that it is left on

The anecdote is thus related: about the year 1765, one James Hargreaves, resided in Lancashire, who was a plain, industrious, but illiterate man, and possessed little mechanical skill or A number of young people were one day assembled at play in Hargreaves' house, during the hour generally allotted to dinner, and the wheel at which he or some of his family were spinning, was by accident overturned. The thread still remained in the hand of the spinner, and as the arms and periphery of the wheel were prevented by the framing from coming in contact with the floor, the velocity it had acquired still gave motion to the spindle, which continued to revolve as before. Hargreaves surveyed this with mingled curiosity and attention. He expressed his surprise in exclamations, which are still remembered, and continued again and again to turn round the wheel as it lay on the floor, with an interest which was at that time mistaken for mere He had before attempted to spin with two or three spindles affixed to the ordinary spinning wheel, holding the several threads between the fingers of his left hand, but the horizontal position of the spindles rendered this attempt ineffectual; it is not therefore improbable, but he derived from the circumstance above-mentioned, the first idea of that machine which paved the way for subsequent improvement. Probably this little event became the ground-work of the most important change that has ever affected the world, since Gop said 'Let there be light?' It was the forerunner of a machine, capable of performing more delicate operations, than the fingers of individuals could perform, although guided by that power which assimulates man to his Creator; and to which we are indebted for the general introduction of steam-engines. It has become the parent of canals and rail-Hargreaves' Jenny, in its original construction, was a rude, uncouth machine. It is said to have been made principally with a pocket-knife, and the clasp by which the thread was drawn out, was a briar split in two. This man met the fate which too frequently attend the benefactors of a country. Popular prejudice was soon excited against him in his native county, where he brought his first Jenny into operation. It was known he had made a spinning machine, and his wife, or some other part of his family, having boasted of spinning a pound of cotton during a

short absence from the sick bed of a friend, the minds of the multitude became alarmed, and they riotously broke into his house, burned his machine, and destroyed his furniture; after this he fled to Nottingham, where he shared no better fate, for an affray took place soon after the erection of his new machines there, in consequence of them, in which he was severely wounded. "Hargreaves was little qualified either by education or address, for the sphere of life into which he was removed, and after having assisted various persons in the construction of machines, and communicated to each by turns, the whole of what he knew, he died in poverty, ill requited by his employers, and little known to the country which has since reaped such important benefits from his inventions."

The comparatively simple invention of Hargreaves, was soon followed by the more complex and operative machine of Arkwright, which no sooner went into operation, imperfect as it then was, compared with the improved machine of the present day, than a complete revolution took place in the cotton trade. regularly trace the successive improvements which have been made in machinery for manufacturing cotton, and consequent increase of demand for that article, would exceed our confined limits, and perhaps, be uninteresting to the reader. The difficulties, Mr. Arkwright encountered in bringing his machine into successful operation, to a mind less ardent, less decisive, and less comprehensive than his, would have been insurmountable. After overcoming each difficulty as it arose, he succeeded in producing a machine which embraced two indispensable requisites, 1st, to prepare independently of intellectual skill, the raw material, by separating the knotty and entangled parts as they offer themselves. And 2dly, to draw it regularly out, by supplying a substitute for the thumb and finger of the spinner. The first of these was accomplished by various contrivances, embodied in a machine, for which Mr. A. obtained a patent. The second requisite was combined with his first machine, and afterwards named the twist or water frame. 'Numerous are the inventions and improvements for which the world is indebted to the genius of Mr. Arkwright, and which complete a series of machinery, so various and complicated, yet so admirably combined and well adapted to produce

the intended effect in its most perfect form, as to excite the admiration of every person, capable of appreciating the difficulty of such an undertaking. And that all this should have been accomplished by the single efforts of a man without education, without mechanical knowledge, or even mechanical experience, is most extraordinary, and affords a striking instance of the wonderful powers displayed by the human mind, when its powers are steadily directed to one object.' This great man's inventions, were happily not confined to the country which gave them birth, but a short time. As early as the year 1780, captain Brooke introduced a cotton manufactory into Ireland. Besides captain Brooke's, which was the principal one, other cotton manufactories were introduced into that country. Not long after this period, France was benefited by the introduction of Arkwright's machine, as two mills were established near Rouen, which were the foundation of her cotton manufactory. About the same time his machine was transported to this country, and a spinning mill erected in Philadelphia.

If the happiness of an innumerable multitude of the present generation, and generations to come, are so manifestly dependent on the production of cotton, by its supplying the means of obtaining food and raiment, surely a society, which has for one of its objects, the improvement of the culture of this important article, is entitled to the cordial support and assistance of every friend to humanity, whether he derives his income from an independent fortune, or is engaged in commerce, or agriculture, or other avocation.

They, who under a specious philanthropy, are endeavouring to undermine and overthrow our domestic polity, ought to pause and consider well what would be the consequence to millions of the human race, if the means of raising this important article of commerce and manufacture were taken from this country. Let those who consider slavery an evil, reflect well on the climate and other circumstances necessary to the production of cotton; let them point out the country which is now raising, or ever has raised a sufficient quantity of it, by free labour, to employ five thousand rational beings, by which they could obtain subsistence, before

they attempt to sow anarchy and discord amongst us, 'lest a worse thing come unto' them.

We are sorry to observe the apathy which the present work indicates, among our eminent cotton planters, in communicating to the public their several improvements in this department of agricultural science. The original communication of Mr. Ralston on this subject, stands as solitary amidst the numerous valuable communications on rice planting, as the item, bread, in Falstaff's tavern bill.

APP.—LETTER XV.—On Cotton Planting.—By WHITEMARSH B. SEA-BROOK.

The benefits which agriculture confers on society, are so manifestly conspicuous, that the speculative mind cannot view without deep interest, whatever tends to its improvement. improvements are adding to the general good of society, on agriculture it is dependent for its existence. Population always increases as agriculture improves. In the surveys of different counties in England, drawn up by order of the Board of Agriculture, an improvement in the condition of the poor, and increased population, had been generally found to go hand-in-hand with supe-The experience of most individuals fully illusrior husbandry. trate the position, that if agriculture is in a depressed state, all professions and trades, all grades of society, from the lowest to the highest, are sensibly affected by it. Agriculture is the nursingmother and hand-maid to all other sciences, and is therefore deserving of the encouragement, esteem and talent of all men, who have the good of society and welfare of their country at heart. These positions are neither invalidated nor weakened, by the application of them, to the different produce of different countries, whether the earth is cultivated for the purpose of raising provisions, or the raw materials from which the necessaries or luxuries of life are manufactured.

The first principles of agriculture are the same, however much the mode of culture may differ, to be made to suit the various circumstances of different countries, in their soil, climate, price of land and labour, and adaptation for raising particular produc-

Cotton holds the first place, in the vegetable productions of South-Carolina, and is of the first importance to the country at large, forming the half of her annual exports; consequently, whatever tends to improve its growth, becomes both a local and na-From the diffusion of agricultural information, a new era has commenced in cotton planting, through the introduction of a system of manuring, imperfect as that system is. Manure is the soul of modern husbandry, but has never been resorted to on the first introduction of agriculture into a country. Manuring necessarily involves labour, which in new countries is excessively dear, compared with the price of land; as population increases, land becomes of more value, and the price of labour decreases in an inverse ratio, and the value of manure rises in an equal proportion. Increased productions in husbandry, has a boundary which cannot be passed, for it is impossible to keep on increasing it ad infinitum; but independent of this axiom, as we endeavour to obtain an increased production by art, so does its liability to disease increase. This position is illustrated by the fact, that crops growing on old lands, are much more liable to injurious casualities and disease, than crops growing on new lands.

In some countries where the price of land was high, compared with the price of labour, the agriculturist was led to seek the means of obtaining larger crops from the same portion of land; manuring was resorted to for this purpose; but an evil was found to attend this, for as the same land was successively manured and cropped with similar grain, the quantity of straw increased, whilst the proportion of grain to the straw decreased; to remedy this evil, long fallows were adopted, which, as the science of agriculture advanced, were exploded on the lighter lands, from being frequently found detrimental to the succeeding crop, in addition to the loss of rent to the tenant, or interest of money to the proprietor, from the land lying idle needlessly long. To correct this defect, the greatest improvement in modern agriculture, the alternation of different sorts of crops, called rotation of crops, was resorted to, "in which immense improvements have been made within this last half century, but which is still far from any thing like perfection." A modern writer, who has collected the best evidence of the value of rotation of crops in the culture of arable

land, says: "Mr. Young, in his Calender of Husbandry, conceives it to be the most important subject that has been treated of by the modern writers on husbandry, and that on which they have thrown far more light than on any other circumstance in agricul-It is a very singular circumstance, that before the middle of the last century, notwithstanding the multitude of books on agriculture, there is not one author who has any tolerable idea on this subject, or even annexed to it any importance. They recite, he observes, courses good, bad and execrable in the same tone, as matters not open to praise or censure, and consequently without any principles that could throw light on the arrangement of field-But that when once the idea was properly started, its importance presently became obvious, so that thirty years have carried to great perfection, the precepts which practice have afforded in this branch of rural economy. And that it demands much regard by the cultivator, is fully evinced by the great advantages that have been gained by it since its principles have become more perfectly understood, and more extensively applied. either very good or very bad husbandry is found on arable land, it results more from the right or wrong arrangement of the crops, than from any other circumstance. And that no district is well cultivated under bad rotations, while it is exceedingly rare to see any badly managed under good ones."

On rotation of crops, the judicious application of manure to fertilize the land, principally depends; for it is an established fact, that particular sorts of plants are principally supported by particular kinds of soil or matter. This is illustrated by the circumstance, that lands which have been frequently cropped with clover or other artificial grasses, have ceased to be productive of them, although for other crops in a state of fertility; which is attributed to these crops having exhausted the gypsum, which before made a component part of the soil. This hypothesis is confirmed by the remedy resorted to in some places to correct the evil; the application of marle or chalk to land which has become tired of artificial grasses. If the fact can be doubted of the necessity of a particular quality or matter in soil to produce particular plants, and of the property and capability of particular plants to exhaust the land of that particular property necessary to their

growth and support, strong evidence may be found for the doctrine in the mushroon tribe, which is said never to appear in succession on the same spot of ground. For the production of cotton, it is not improbable but a distinct property in the soil is necessary to produce the stalk and another to produce the pods; and also, for the production of grain, one quality to produce the straw, and another to produce the grain.\* The latter is particular-

\* This postulate, in the absence of the test of actual experiment, requires the evidence of high authority to guard it from the suspicion of being visionary. It would be presumptuous in us to assert its correctness, but we think it not improbable what we here propose hypothetically, may be actually true; if so, it is of the first consideration in manuring land for a particular crop, to determine what distinct property or properties are required in the manure to produce the expected benefit. It is well known to most practical planters, that a superabundance of moisture has a powerful tendency to promote the growth and luxuriance of the cotton-stalk, and a contrary effect in increasing and perfecting the number of its pods. We remember to have seen a crop of barley which was reported to have been sown and reaped without an intervening shower of rain: the straw was so short that the beard of the barley touched the ground, as it hung down. Although the produce in straw was very small, the quantity of grain was said to have been little short of an average crop. In this case, the want of a due supply of moisture, affected the straw much more than the grain.

"During the growth of wheat, there appears to be formed nothing but vegetable matter, or of matter composed of oxygen, hydrogen, and carbon, mixed with, perhaps, a minute portion of carbonate of lime: but when the grain is formed, there is taken up a considerable quantity of either pure nitrogen, or some substance containing that element, and also, a portion of phosphate of lime. It is rendered highly probable that the nitrogen is taken up in soluble animal matter, most of which have the remarkable and anomalous property of dissolving phosphate of lime; thus ministering to the plant not only by its own elements, but also, as the vehicle of another useful, and perhaps, necessary constituent—a constituent which could not have been furnished by any known medium."

"The above remarks are not confined to wheat; almost every plant, at the time of fructification secretes substances, and forms compounds peculiar to that state of vegetation. Whether new organs be framed for that especial purpose has not been determined, for, I believe, it has never been considered. What a field for speculation does this open; it is an untrodden path in the wide and delightful regions of vegetable physiology. And, although the laws conspiring to evolve these secreting organs, may for ever remain inscrutable to human research, yet to know that such se-

ly shown in the cultivation of some rich alluvial soils in Lincolnshire, which have been cropped year after year with oats, to reduce them sufficiently to grow wheat, although abundant in the

cretions do take place, and that such laws do exist, will furnish the practical agriculturist with much useful information. It will teach him, that the same manure which formed the stamen and leaves of a plant, may not be able to form the seeds."

If we could be assured that the opinions of this scientific author are correct, we might stop, and consider our postulate resolved into an axiom; but the importance of the position, to the proper application of manures, to benefit certain crops, is so manifest, that we cannot consent to omit any authority with which we are acquainted, to confirm and illustrate our own opinion.

"If we examine the straw of wheat, we shall find it composed of what may be considered common vegetable matter, or matter composed of oxygen, hydrogen and carbon, with a small quantity of carbonate of lime—so, also, if we examine the constituents of the grain, we shall find it distinguished into starch and gluten; and if we carry our researches still further, we shall find that the elements of the starch are precisely the same with the elements of common vegetable matter; [the same as those of the straw;] but the elements of the gluten will be found analogous to those of animals; or, in addition to oxygen, hydrogen and carbon, there will be found nitrogen. The production of this nitrogen, cannot be effected by mere common vegetable matter, and therefore, the manure employed in the production of the straw and starch, would not produce the gluten also."

"If the presence of gluten was accidental, or the value of the flour did not depend on it, then little care need be taken to provide for its formation; but as it is required to be constantly present, and the value of the flour does essentially depend on it, therefore a provision ought to be made for it. In quantity, it is not inconsiderable, but composes nearly one-third part of the grain. That the operations of husbandry, as regards wheat, should be conducted without any reference to this peculiar substance, is very remarkable. That the failure of crops has never been ascribed to its deficiency, is still more wonderful."

"The process of vegetation, and the constituents of vegetables, are not known to the practical farmer, because they are difficult to ascertain: and the nature of his manure is involved in the same obscurity: he supposes it to contain every thing needed for every crop."

"That the gluten of wheat flour may always be present, it is necessary that a quantity of animal substance should exist in the manure applied to the land where the wheat crop is intended to be raised. That a certain portion of such animal is applied, is proved from the fact of gluten being always found to exist in that grain;—but it is highly probable, that the quantity is not always sufficient; and if not sufficient, the crop will be de-

production of straw; and the oats are so light and chaffy, that they are called half-oats, two bushels being sold for the price of one. It is well known to us, that soils in which calcareous matter abounds, are capable of producing large and successive crops of sanfoin after the land has been completely worn out for grain or other crops. We have seen an excellent crop of grain, produced without manure, from a field which had been laid down with sanfoin for five years; producing good crops of hay, the after-feed be-

fective either in quantity or quality. If we pursue our investigation a step farther than we have done, we shall discover that phosphate of lime is as constant a constituent of wheat flour as gluten itself. Phosphate of lime is, therefore, as much needed for the production of a crop of wheat, as the substances which supply the starch and gluten."

"I shall now proceed to consider a point in practical husbandry at once new and interesting. It is that of a specific, peculiar use of animal matter to the wheat crop; a peculiarity with which agriculturists have been so little acquainted, that bones, &c. have been highly recommended for grass, or pasture lands. To discover the injudiciousness of applying such substances to crops indiscriminately, it will be necessary to become acquainted with the fact, that there is no kind of grain except wheat, raised artificially for the purpose of man or cattle, that contain any notable quantity of any substance analogous to that of animals. Hence, when bones, &c. are used on grass lands, or for the barley crop, &c. all the nitrogen, with so much hydrogen, and probably carbonic acid gas, as is sufficient to form a subcarbonate of ammonia, will be entirely lost. If bones be the animal matter employed, every one hundred pounds weight will yield about fifty pounds weight of solid gelantine, of which twenty pounds at least, will be thus wasted, or two-fifths of all that is valuable in the bone. If instead of being employed for grass, &c. they had been used for wheat, all this might probably have been saved. This is not mere opinion: its truth is obvious to every one conversant with the chemical nature of bones and grass."

"I have mentioned already, that phosphate of lime composes a part of the grain of wheat, and that phosphate of lime is supplied by animal substances. Bones furnish an abundance of it. That this constituent of the wheat crop, as well as several other constituents of different crops, must appear reasonable to every one who knows, that, in their selections, there is exercised a constant discrimination. That wheat always takes up phosphate of lime, is a proof scarcely needing further evidence, that it an swers some useful, and perhaps, indispensable purpose in the grain. It does not exist in the straw; and barley, or olas, or clover, grown on the same land, at the same time with the wheat, take up no portion of it whatever."—Grisenthwaite on a New Theory of Agriculture, &c.

ing left annually for a sheep walk, and this land was so worn out previously to being laid down with the sanfoin, that it would hardly produce any thing else. Fresh soils, though abounding in calcareous matter, are often found capable of producing abundant other crops, yet will not produce sanfoin. We have witnessed some chalky soils, in which sand and gravel abounded, that would produce excellent barley in rotation, but were very unkind for wheat; the same land, after having borne repeated crops of barley, at intervals, and being impregnated with manure, from being fed with sheep on the fallow crops, become sick (in technical language) of barley, producing it in less quantity but superior quality, (the skin becoming very thin and bright) become kind for wheat. 'On the contrary, some primitive soils, not originally containing any calcareous materials, and which not having been cultivated, cannot be impregnated with manures, on first being broken up, yield astonishing crops of oats, whilst barley scarcely could be raised upon them.'

Wheat, when analyzed, was found to contain a certain portion of animal matter; hence it is inferred, that animal manures are highly fertilizing to land intended for wheat, and it is not improbable but that animal matter is the peculiar quality in soil which is required to make it productive of wheat. This postulate is supported by the analyzation of an excellent wheat soil in the county of Middlesex, by the author of Agricultural Chemistry; which gave three parts in four of siliceous sand, and the finely divided matter consisted of

Carbonate of	f Lime,	-	-	•	28
Silica,	-	-	-	-	32
Alumina,	-	-	-	-	29
Animal or v	-	-	11		

Arthur Young made two hundred and sixteen experiments to determine the effect of different sorts of crops on land, in annual successions or rotations, which are recorded at length in the 23d vol. of Annals of Agriculture. In the first courses, wheat was grown the third year, after turnips, cabbages and potatoes; after the cabbages and turnips it gave 21 bushels, after the potatoes it gave 18½ bushels. In the three next courses, wheat was produced, in the third year after beans, barley and wheat; after the beans it gave 19½, after the barley 18, and after the wheat 16

bushels. It would be necessary to copy the whole thirty-six courses, which included six years, at length, in order to show the full benefit which resulted from certain orders in the rotation of the crops; but sufficient has been extracted, to exemplify the benefit one crop may receive by one particular crop preceding it rather than another.

If this postulate be correct, that particular plants exhaust particular qualities of soil, a radical change is required in the usual order of cropping for cotton. Simply resting land cannot give to it that particular quality in the soil, which may be required to produce an abundant crop. It is not improbable, in the process of vegetation, the fertility of the soil may greatly depend on the proportion which certain matters constituting the soil, bear to each other; for instance, the crop 1, may require and exhaust more of the particular matter in soil called A; the crop 2, may be similarly influenced by the quality B; the crop 3 by that of C, and so on. If the crop 1 is planted this year, it will exhaust most of A, leaving a redundancy of B and C. If 1 is again planted, without an intervening crop, the proportion of B and C over A, becomes still greater. If 1 is again planted, and the land assisted by manure, it is not improbable but the manure may add as much to B and C as to A. Hence, the propriety of change of crop on the same land.

Davy, in his Agricultural Chemistry, writes, "No soil is fertile that contains as much as 19 parts out of 20 of any of the constituents" of which it is formed. "In all cases, the ashes of plants contain some of the earth of the soil in which they grow; but these earths never equal more than 1-50th of the weight of the plant consumed."

There are certain general principles which must govern a good system of agriculture, whether it is intended to promote the growth of grain, cotton, rice, sugar, coffee, or other production of the earth. In adducing the examples of certain crops exhausting particular qualities of soil in their production, it is not intended to recommend them to take precedence of the valuable productions which our soil and climate are so eminently adapted to, but merely to suggest, that by a system of rotation of the few varieties of crops we now cultivate, a larger product may be obtained, with

less labour and less land. Perhaps some ameliorating crops might be introduced with advantage, as they would afford subsistence for a larger number and variety of stock, which would return to the land, in manure, what they had consumed in their support. The bulbous roots seem more independent of a particular property in soil for their productiveness and arriving at perfection, than grain crops, for land cannot be too rich for turnips, if room is given them to increase in size; but they are said to exhaust land more when they are going to seed, than when they are simply increasing in bulk.

The introduction of manures to land for cotton, has been attended with success, but in many instances considerable disappointment has followed it, when the period arrived for gathering It is not our intention to enter on any discussion on the comparative value of different manures for cotton, but would only observe, that in the various experiments which have been tried to test their value, the failure of some of them, perhaps, may justly be attributed to the want of that particular quality in them, which cotton requires, although excellent for a different crop. Some of them appear to possess considerable influence in promoting the growth of the stalk, and to have little effect in increasing the number of pods; others appear to possess less influence over the stalk and more over the pods. We are of opinion, if our planters continue to aid their lands by manure, they will be compelled to adopt a system of rotation of crops, or either disease or flourishing stalks with a dearth of pods, will in a few years, blast their fairest hopes.

We suspect an erratum, of the printer, in Mr. Seabrook's answer to the first queræ, on strewing manures. We think there is an objection to placing the manure in a body, either above or below the listing, particularly if the manure is of the forcing or fermenting kind. By thus placing it, is not the plant forced at one particular stage of its growth to the detriment of another stage, by the tap-root having passed through the manure, thereby diminishing the nourishment it before received; and that perhaps, at the time the stalk is required to perfect its pods? If this is an evil, it might be remedied, by spreading the manure over the land after it is listed, and let it be worked in with the bed. The la-

teral roots of the plant will be sure to find and draw support from it, however minutely its particles may be divided.

From our knowledge of the usual period of laying-by the cotton crop on Edisto Island, we are certain that "August" should read July, in the answer to queræ —.

Extracts from Select Authors on Agriculture-ART. 40 .- On Manures.

Had the Agricultural Society through their Committee of Publication, rendered no other service to the public, than bringing forward, in a condensed shape, the improvements of other countries in agricultural science, it would be entitled to the gratitude of the community. The great difficulty of applying the improvements, which they have exhibited in their valuable extracts to the agriculture of this country, consists principally in the price of labour, compared with the price of land in the Southern States, again compared with the price of labour and land in other coun-But the examples which are recited in the work, of improvements in agriculture, by new and ingenious systems of husbandry, and the converting waste lands into profitable ones, are not without their use to us. Profit, in agriculture, is as comparative as profit in commerce; the proportion of good land in a country is generally smaller than the middling and bad. It is in agriculture as it is in commerce, professions or mechanical trades; all men engaged in them cannot follow that which is most profitable, neither can all agriculturists obtain the most fertile land; he is the wiser tradesman who makes a poor trade profitable, by honourable means; and he is the wiser agricultor who makes poor land fertile, provided he pays not too dearly for his pains.

Lord Kames endeavoured to establish the theory of water being the only food of plants, though he himself frequently deviates from that theory, yet thinks it possible upon such a principle, to make a soil perpetually fertile. "To recruit, says he with vegetable food, a soil impoverished by cropping, has hitherto been held the only object of agriculture. But here opens a grander object worthy to employ our keenest industry, that of making a soil perpetually fertile. Such soils actually exist, and why should it be

thought, that imitation here is above the reach of art? Many are the instances of nature being imitated with success. Let us not despair while any hope remains; for invention never was exercised upon a subject of greater utility. The attempt may suggest proper experiments; it may open new views; and if we fail in equalling nature, may we not, however, hope to approach it? A soil to be perpetually fertile, must be endowed with a property to retain moisture sufficient for its plants; at the same time must be of a nature that does not harden by moisture. Calcareous earth promises to answer both ends; it prevents a soil from being hardened by water; and it may probably also invigorate its retentive quality. A field that got a sufficient dose of clay-marle, carried above thirty successive rich crops, without either dung or fallow."

A judicious system of manuring may be said to be the chemical part of agriculture; but we confess, we had rather take the opinion of a good practical planter, on the value of a certain manure, to promote the growth of a specified crop, than the opinion of Sir Humphrey Davy. Let us not be misunderstood; we highly esteem the light, which chemical science has shed on the general principles of agriculture, and particularly on the properties of soil and manures, and their action on each other; but it is too much to expect of one individual, that he shall be a good practical chemist and a good practical agriculturist; for in all probability, if a good chemist, while he is analyzing soil and manure, to determine what would be proper to apply to his land, to fertilize it, for the particular crop which he wishes to grow, his labourers are doing only half task. We would desire to be reckoned among the very last who would look with indifference on a correct theory; for we know that a bad practice may follow a good theory, but we would defy a good practice founded on a bad theory. It is one of the misfortunes attending agricultural science, that as many months, or more, are generally necessary to determine the result of an experiment, as it does hours, in many of the other sciences: hence, the great propriety of applying the experience of other countries to the agriculture of our own country, whenever the general principles on which it is founded, are similar, instead of looking with indifference on what they have done, and folding our arms, and

saying, 'that may do very well for them, but won't suit us; we don't want to grow wheat, barley, turnips, and so on.' From the greater part of the standard works on agriculture, being British, it is apt to engender in the mind, an idea that British farmers, by their judicious systems of manuring and cropping, have arrived at as high pitch of excellence, in their art, as the farmers of any country; but the system and practice of the Flemish husbandman, leave them far behind, if the quantum of product, to the land cultivated be taken as the criterion. We had marked a long extract from 'Flemish Husbandry,' but will not anticipate the reader's pleasure, in looking over the entire article, further than the following, in support of what we have stated:

'In truth, to say that there exists a vast province, in which the price of lands has been quadrupled within fifty years, and which is neither placed under a more favourable climate, nor enjoys a greater fertility of soil, than England; from which fallows in general have been banished from time immemorial; in which the greater part of the lands produce in nine years, at least fifteen harvests, of which those of grain yield, one year with another, as high as thirty-two bushels of wheat per acre; those of barley, sixty bushels; and those of oats, ninety bushels; and where the borders of the fields are planted with trees in such numbers, that by their sale, the proprietors, acquire every forty years, a sum of money equal to the (value of the) soil; to say this, appears, to other than English readers, to repeat a tissue of fables.'—Page 198.

Some idea may be formed of the value of manure to the Flemish husbandman, from the evidence of Vanderstracten, who says, villages of 6,000 acres of surface expend, in the purchase of dung and other manures, more than £26,000 sterling, (upwards of \$115,000,) besides the enormous quantity of manure they make from their own cattle.

Manures are not arbitrary in their action on soil; cause and effect with them, are governed by the same unerring principle which governs other operations in nature. In the paper on cotton planting, which precedes this, we endeavoured to show by analogy, the probability of separate properties being required in the soil to produce the stalk and the pods. The postulate is further illustrated by the effect which has followed, in some cases, from certain manures. Manure, which has been hastily made in the cow-pen, by having it deeply litered daily or at short intervals, with marsh and

other waste vegetable matter, and taken from thence and applied to the land, when it has undergone only a very slight decomposition, appears to have considerable effect in promoting the growth of the stalk. Marsh-mud, on the contrary, seems to exert less influence over the stalk, and more over the pods. It is a fact, that lands manured with marsh-mud, bring cotton to perfection, and of better quality, quicker than lands not manured or manured with It was stated to us, that in the year 1822, the caterpillar did but little injury on Mr. Seabrook's plantation, at John's Island, to that part of the crop, grown on the land to which marsh-mud had been applied, whilst to the other part of the crop, they did considerable injury; this difference was correctly attributed to the crop on the mudded land being more forward than the other part of the crop. Animal and calcareous manures are particularly adapted to the promoting of the growth of cotton; if this was not an axiom in cotton planting, proof is not wanting; instance, the luxuriant growth of the cotton plant, its spreading shoots loaded with forms and pods, on ground which has been occupied with old buildings, or in the immediate vicinity of negro houses, or where mortar has been prepared. We have heard opinions disadvantageous to lime, as a manure for cotton, but confess ourselves skeptical of its unfavourableness; we have never heard of a fair trial having been given it, for the purpose. Marle is calcareous; this has had ample trial and never found wanting, when put to the test. Good marsh-mud answers to all the chemical tests of marle. Marle, in Agriculture, a soft unctuous, heavy substance of the calcareous kind, found extensively, in some situations, at different depths under the ground. It is found in different forms in different places, and distinguished from its appearances, into shell, clay and stone marle. The first is supposed to have an animal origin, as being constituted of testaceous matter in greater or less degree of fineness, from the slow decomposition and attrition which they have undergone for a succession of ages, intermixed with a portion of earthy substances. In common, they are found to contain a larger proportion than the ordinary kinds In respect to the second sort, it has, in general, a large quantity of clay in union with the calcareous material; on which account, it has a greater power of absorbing and retaining mois-



ture, than most other sorts. Marle of this nature varies greatly in regard to its colour, being found of a brown, blue, red, and yellowish appearance. And the third sort is met with, combined with sand, in different proportions to the calcareous and clayey materials, upon which the difference in its hardness depends. The following simple methods have been suggested, tending to test such substances as are examined as marle. First, by air.-If a lump of true stone or clay marle be exposed to the air, it will, in a short time, break into small pieces. Secondly, by fire.—When a piece of real marle is dry, break it into as small particles as possible, and put a handful into a hot coal fire; it will crackle in the same manner as if salt had been thrown therein. Thirdly, by water.—Put a piece of dried marle into a wine glass, and pour gently as much water thereon as will cover it; if true marle, it will gradually dissolve into a liquid or soapy substance, and at the same time shoot up many sparkles to the surface of the water. Fourthly, by acid.—The most certain criterion, by which to prove marle of all kinds, is to put a little in a wine glass, and pour over it a small quantity of aqua-fortis, or other strong acid, diluted with water; if it effervesces, it is a sufficient proof of its being marle; and the degree of effervescence, at the same time, determines its quality. Marle is likewise further distinguished by its feeling fat and unctuous; and its looking when dry, after having been exposed to the weather for some time, as if it was covered with a hoar frost, or sprinkled with fine salt. Many rivers are bordered with a vast treasure of it, which is plundered by every flood. Boggy lands frequently cover it, and in them it seldom lies above three feet deep. It is somewhat lower under stiff clays and marshy level grounds. The lowest parts of most sandy lands abound with it, sometimes at the depth of three feet, and sometimes at five, seven, nine or more. The depth of marle itself can seldom be found; for when the upper strata of the earth is removed, all that can be seen or dug, is marle, to so great a depth, that there are few, if any, instances of a pit's having been exhausted of it .- Vide Rees' Cyclopedia.

There is no difficulty in accounting for marle being deposited in the bed and on the sides of rivers; for it is held by water, both in solution and suspension. These peculiar properties, render it

10

VOL. I.

liable to be carried from the higher lands to the bed and sides of rivers, whenever there is a heavy fall of rain. Strict observers must frequently have noticed, that small pools of water at the sides of some banks, retain a yellowish appearance, long after the water has become perfectly still, as if clay was mixed with it. This appearance is caused by the water holding the marle in solution or suspension. Water has the power of holding clay in suspension but a very short time; quickly depositing it after its agitation ceases. Marle or calcareous matter appears to be a quality in soil necessary to promote and support vegetation. It is the practice of some districts in England, when the fields are worn out, and manures become partly inert upon them, to dig deep and large pits in the fields and cart from them, from eighty to an hundred two-horse cart loads of marle to the acre, through which means, old lands are brought back to their primitive state. is practised on heavy clay lands, as well as on the light sandy A highly respectable officer of the Agricultural Society informed us, he was riding with a friend, in England, when a farm was pointed out to him, and he was inquired of by his friend, if he did not suppose that farm to be a very profitable one; on answering in the affirmative, he was told it had broke two farmers, but that two brothers from an Eastern county had taken it, and were sending their teams fourteen miles for the purpose of bringing marle to their land; and it was thought they would make a fortune in a few years, from the crops they were raising.

The absence of marle appears to be the principal cause of salt spots in marsh land. The public is indebted to Gen. Thomas Pinckney, for a communication on the subject of reclaiming them. We doubt, if "salt spots" is not a misnomer for these barren places, for the white substance which appears on the surface of them, tastes more of alum than salt. We are acquainted with a spot, where cattle had been penned during the winter, which had put on the appearance of a salt spot, although before the pen was made there, it bore the same kind of marsh grass as the other part of the land. What can this appearance arise from, if not from the cattle having posched the place, and the water carried the marle from it? We would suggest, that where lime cannot be

conveniently procured, very deep trenching might be the means of reclaiming these barren spots.

Cotton growing on the sides or on the surface of banks, formed of the soil dug out of corresponding ditches, is generally found to be luxuriant, and to bear well for a number of years. A marked difference in the cotton has been observed, between that portion of the field which has been manured with what has been hastily made in the cow-pen, and the part which has had manure made in the stable where horses had been kept. This could arise only from a large portion of dung from better fed animals being mixed with the litter, and probably the manure improved by being kept covered; which must be superior to that made in an open pen by grass-fed animals hastily treading down a large quantity of marsh or other vegetable matter. On stiff soils, that show a disposition to produce flaggy cotton, after having been cropped for some years, pine-trash has proved an excellent corrective, apparently possessing little power in promoting the growth of the stalk, but having considerable influence over the number and early opening of the pods. It does not appear to act on vegetation by its decomposition and mixing with the soil, for it is found at the bottom of the bed, the season after applying it, apparently unchanged. We think it not improbable, but it acts as a drain under the bed, as the method of applying it to the land, is to strew it pretty thickly along the alley, and list and bed over it. have heard objections to pine-trash for manure on light lands, as being inferior to marsh, rushes or other vegetable matters collected from marsh land, as these decompose much sooner than the We are not aware of any comparative trials having pine-trash. been made to test the superiority of the one over the other on Cotton-seed has been found a most excellent mathese lands. nure for cotton as well as provisions; it has a decided advantage over other manures, in the little labour required for its applica-No doubt can exist, but the great effect produced by cotton seed, as a manure, arises from the large portion of oil which it combines with its mucilaginous and other component parts. present mode of preparing cotton seed for manures, is very wasteful; by placing the seed in heaps, exposed to the weather, for the purpose of undergoing fermentation, to destroy the germ, the

greater part of the oil which it before contained is lost by the process.\* One of the Society's premiums, it is suggested, might be

\* "M. Delcourt, ascertained, by repeated experiments, that the action of oil-cake on vegetation, proceeded entirely from the remnant of oil it contained, and that the pellicle and parenchyme of the oleaginous seeds, forming the substance of the cake, could not be better assimilated than to washed straw, when the oil was disengaged. Having found that about 20 litres (20 quart bottles) of oil could be still expressed from a thousand cakes of rape seed, he concluded that a hectolitre of oil (100 quart bottles,) value 48 francs, would as manure, represent 5000 oil cakes, which at the rate of 6 francs, (111 cents) the hundred, would cost 300 francs; a great saving, indeed in the expense of manure. As the oil, however, could not be employed by itself, and without some mixture, he resorted to the following process:

A compost of horse, cow and sheep dung, in the proportion of 20 wheelbarrows for each hectolitre of oil—(the contents of a wheelbarrow are about two cubic feet)—and on two or three of these wheelbarrows he sprinkled about ten or twelve litres of oil, which were mixed thoroughly in the dung.

The cost of such a compost was as follows:

20 wheelbarrows of dung, at 10 cents, 10 francs 1 hectolitre of oil, at 48 fr. (\$\\$88) 48 do.

Expense, 58 francs.

For pulverised oil-cake, which he used to employ, he substituted coal or peat ashes, or any other, in the proportion, to an hectolitre of oil, of 20 hectolitres of ashes. (This hectolitre of ashes is about 35,232 cubic feet) [about 18 wheelbarrows.] This oil was poured on slowly, and well mixed with the ashes, till they were completely saturated; and they were afterwards equally scattered over the land.

Price of the ashes (which are already a manure by themselves) by the hectolitre, 20 francs An hectolitre of oil, 48

68

The two above sums of 58 fr. and 68 fr. together 126 francs, represent an outfit in manure, which in oil-cakes, as commonly used, would have cost 300 francs. [Queræ, is it not as 126 is to 600? The 126 francs include two hectolitres of oil, which represent 10,000 oil-cakes.]

It is ascertained that M. Delcourt's improvement has never failed once for the last ten years. No other crops in his neighbourhood have been so constantly firm and abundant. His flax and tobacco plants particularly have been generally admired."

advantageously awarded, for a simple and cheap machine, for bruising the germ of cotton seed, to prevent its sprouting when used as manure. We remember to have seen it recommended to put cotton seed in the stalls of stables, where horses are kept, for the purpose of having it bruised by their feet; this plan has a serious objection, where hogs are kept, for it is poison if eaten by them, before it has fermented; whilst it is nutritious food to ruminating animals.

Salt was brought forward as a manure for cotton, to supply the place of marsh mud (it is presumed, from the supposition that the good effects of mud on cotton, arises in a great measure from the salt which it contains; but it is thought, that if good marsh mud was analyzed, the portion of salt it would afford to its other parts, would be too trivial to produce any visible effect) but it has not been found to answer the high expectations which were formed of it. Perhaps its limited effect may have arisen from its having

'The use of oil in vegetation also is very great. When the cuttings of gooseberries are planted, it should be done in a lump of clay, mixed with cow-dung and a few drops of train oil; and when young thorns are planted in a poor or sandy soil, they will thrive better if their roots are dipped in oil.' (Sir John Sinclair, on the Agric. state of the Netherlands.) Farmer's Mag. Feb. 1825.

Obs. We are unacquainted with the weight of French oil-cakes. A thousand English rape-seed cakes, are said to weight 2800lbs. and to cost about 30 dollars. This number is usually applied, on the lighter soils, to manure three acres for turnips. Assuming the weight of French oil-cakes to be the same as English or Scotch oil-cakes, and that the same number or weight would be sufficient manure for an acre here as there, according to M. Delcourt, the first cost of a similar compost here, would be about as follows:

20 quarts of rape-oil (5 gallons) at 60 cents,	<b>§3</b> 00
5 wheelbarrows of dung, at 10 cents,	50
	Ø2 50

This sum, with the contingent expenses, could not amount to more than two dollars per acre. We are too great novices in the art of planting, to offer an opinion of the quantity of oil necessary to become an effective manure for cotton or other crops common to this country; or, of the value of a compost of this kind to the South-Carolina planter. We have brought forward these extracts to support our opinion of the waste, which annually takes place, in the preparation of cotton-seed for manure.

been used too sparingly; for in the accounts we have read, the quantity used to an acre in other countries is truly surprising; we suspect in those accounts, they do not mean the refined salt, which is used here, but the rock salt, which is combined with a great portion of earthy particles. Or, what is more probable, salt may require to be combined with vegetable or other manures to make it effective. This supposition is strengthened by the circumstance, that cotton looked considerably better which was manured with manures from the cow-pen, in which a large quantity of salt had been purposely mixed, than the cotton which was manured with similar manure without salt.

All substances, in which ammonia enters largely into their composition, are among the most lasting and fertilizing manures: these and calcareous matter, appear to possess the main principles which soil requires to make it perpetually fertile. We have never heard of crude ammonia (sal ammoniac) being used as a manure, neither do we think its application to land in its simple state would prove a good one; but combined with other matters, it might prove a valuable addition to those already in use. Urine has been tested as a manure, by straw having been steeped in it, and found highly fertilizing. Urine is composed principally of water, salt and ammonia.

The science of agriculture has not progressed in the Southern States, in the same ratio as its sister sciences. We have made but small progress, as yet, in the art of making manures, or in their proper application to land, at the most appropriate seasons, or the rotation of crops, or a system of fallowing, or the introduction of ameliorating crops, to prepare the land in the best manner, for growing our staple crops.

The preparation of manures holds as important a rank in good husbandry, as the judicious application of them. Herein the Southern planter must be held recreant to his profession, if he does not avail himself of the lights which the experience of older countries has shed on this subject.

WE insert the subsequent Oration in the Journal, in consequence of a request having been made us by the Society before which it was delivered to do so. The "Charleston Medical Society of Emulation," was formed the first year the Medical College of South-Carolina was established, and is composed of the matriculated Students of that institution. This society has fiftyone ordinary members, and fifty-seven honorary members, composed of some of the most respectable physicians of South-Carolina and Georgia. The President and Vice-President of this society are, and by a specific law, must be medical practitioners. We will only add, that the society is incorporated, and books are now collecting to form a library, to the accomplishment of which interesting purpose, every patriotic physician and public spirited citizen of our country, should contribute their aid.—Editor.

## ARTICLE VIII.

AN ADDRESS, delivered on the First Anniversary of the Charleston Medical Society of Emulation, (held Friday, 2d December, 1825.) By James W. Taylor.

Of all our relations with objects around us, the tie which binds us to our fellow-man, is, by common consent, acknowledged to be the most powerful. Formed after the same image, possessing in many respects the same feelings, and interested in the same future destiny, a reciprocity of sentiment is the natural result. Hence, in all ages men have arisen, who have taken a deep interest in the temporal comfort and future happiness of mankind. In former times, temples were erected to those who had been greatly distinguished, and divine honours were often paid to them.

In our own day, honour is also paid to the worthy dead; and we see, in some instances, monuments erected to the memory of the great and good.

From the discovery of the Sciences has arisen a new era in the history of man, and he is now taught, that the grand source of

been used too sparingly; for in the accounts we have read, the quantity used to an acre in other countries is truly surprising; we suspect in those accounts, they do not mean the refined salt, which is used here, but the rock salt, which is combined with a great portion of earthy particles. Or, what is more probable, salt may require to be combined with vegetable or other manures to make it effective. This supposition is strengthened by the circumstance, that cotton looked considerably better which was manured with manures from the cow-pen, in which a large quantity of salt had been purposely mixed, than the cotton which was manured with similar manure without salt.

All substances, in which ammonia enters largely into their composition, are among the most lasting and fertilizing manures: these and calcareous matter, appear to possess the main principles which soil requires to make it perpetually fertile. We have never heard of crude ammonia (sal ammoniac) being used as a manure, neither do we think its application to land in its simple state would prove a good one; but combined with other matters, it might prove a valuable addition to those already in use. Urine has been tested as a manure, by straw having been steeped in it, and found highly fertilizing. Urine is composed principally of water, salt and ammonia.

The science of agriculture has not progressed in the Southern States, in the same ratio as its sister sciences. We have made but small progress, as yet, in the art of making manures, or in their proper application to land, at the most appropriate seasons, or the rotation of crops, or a system of fallowing, or the introduction of ameliorating crops, to prepare the land in the best manner, for growing our staple crops.

The preparation of manures holds as important a rank in good husbandry, as the judicious application of them. Herein the Southern planter must be held recreant to his profession, if he does not avail himself of the lights which the experience of older countries has shed on this subject.

WE insert the subsequent Oration in the Journal, in consequence of a request having been made us by the Society before The "Charleston Medical Sowhich it was delivered to do so. ciety of Emulation," was formed the first year the Medical College of South-Carolina was established, and is composed of the This society has fiftymatriculated Students of that institution. one ordinary members, and fifty-seven honorary members, composed of some of the most respectable physicians of South-Carolina and Georgia. The President and Vice-President of this society are, and by a specific law, must be medical practitioners. We will only add, that the society is incorporated, and books are now collecting to form a library, to the accomplishment of which interesting purpose, every patriotic physician and public spirited citizen of our country, should contribute their aid.—Editor.

## ARTICLE VIII.

AN ADDRESS, delivered on the First Anniversary of the Charleston Medical Society of Emulation, (held Friday, 2d December, 1825.) By James W. Taylor.

Or all our relations with objects around us, the tie which binds us to our fellow-man, is, by common consent, acknowledged to be the most powerful. Formed after the same image, possessing in many respects the same feelings, and interested in the same future destiny, a reciprocity of sentiment is the natural result. Hence, in all ages men have arisen, who have taken a deep interest in the temporal comfort and future happiness of mankind. In former times, temples were erected to those who had been greatly distinguished, and divine honours were often paid to them.

In our own day, honour is also paid to the worthy dead; and we see, in some instances, monuments erected to the memory of the great and good.

From the discovery of the Sciences has arisen a new era in the history of man, and he is now taught, that the grand source of

enjoyment lies in the cultivation of his mind; and the enjoyment of those sources of happiness, which the progress of civilization have brought within his reach.

There was a period when man, directed only to the things of this life, was led to bestow his chief care and attention on his frail and perishing body; ignorant of the fact, that within himself there existed an *immortal* spirit, capable, by proper cultivation, of enjoying happiness pure, and unalloyed. But this cloud of darkness, this thick shadow of death, that has long hung over our race, is fast dispersing; and from beneath its gloom shines a bright and cheering light, destined, at some future day, to illumine even the remotest part of the earth; a ray of this light has fallen on us, and this day proves, that we are not unmindful of the blessings which its presence brings.

We are assembled for the purpose of celebrating the first anniversary of the "Charleston Medical Society of Emulation."

It would be a pleasing employment on this occasion, to trace the origin and progress of civil compacts, and to review, in their proper place, the *causes* which have operated in producing the present state of society.

However interesting it might be to the philosophic mind, to follow the gradual improvement of the human species, from their rude and savage state, to that period when we find them in the enjoyment of civil privileges, and participating in all the pleasures and refinements resulting therefrom; still, on this occasion, our attention must be confined to the present time, when causes various as the imaginations of man, have produced a state of society on which we can look with delight, and from which it is our happy privilege to be able abundantly to profit.

At this period of almost universal peace, civilized man, with a few exceptions, appears to have united with his fellow man in benevolent exertions, for promoting the happiness of the species in the diffusion of science. Associations are constantly forming, which have for their object, improvement in every department of knowledge. The happy influence of these bodies is universally admitted. It is indeed true, that some individuals, unassisted by a fostering hand, have burst through every barrier, have illumined the world by the splendour of their talents, and benefited it by

their discoveries. To such sons of genius are due, and they have never failed to receive, the thanks and admiration of mankind.

But it is equally true, that very different has been the success of many, who, at their first appearance in the paths of science, gave ample presage of future usefulness. Ere the sun of their existence had reached its meridian, poverty, or the neglect of a cold unfeeling world, has blasted their fondest hopes, and all their cherished anticipations have ended in despair and death.

It is our happiness to live at a time when this stain is in a measure wiped away. Institutions are daily rising, not for the purpose of frowning upon every effort of opening genius, but to cherish that spirit of industry, and that desire for usefulness, which warms the bosom of every true lover of science. However men may in their retirements prosecute with avidity and success the acquirement of knowledge; it is only in assemblages like this, that information thus acquired becomes eminently useful. Here is given an impulse to talents; here is extended a fostering care, that is frequently successful in eliciting the boldest exertions of the It is thus that associations like ours, designed for emulation, tend to bring into active existence many a latent spark of genius, which else might have remained in obscurity, or been lighted in vain to the ignorant and plodding multitude. We cannot see others treading in the paths of knowledge and usefulness, without emulating their example.

The glowing fame or honour of another, cannot fail to arouse the energies of every man, who wishes to make himself useful to his fellow creatures.

When this honour or this fame is contemplated only at a distance, its influence is but faintly felt. It is only when we come as it were in contact with it, that we feel its full power. The immortal Franklin, whose remarks, on all occasions, are worthy of consideration, sanctioned by his own example, the assembling of ourselves together, at *stated* periods, to communicate, and elicit by our discussions, whatever information each may have acquired.

I might easily cite instances to show the great benefit that has resulted from forensic and other societies; but this I deem unnecessary.

Let us for a moment consider the particular object we had in view in the formation of the "Charleston Medical Society of Emulation," and in doing this, let us also bear in mind the intimate connection of the subject with the diffusion of medical knowledge in this section of our country.

Our society, as its name denotes, was formed for the purpose of improvement in medical science. It becomes us, as students of medicine, to consider well the importance of this branch of learning:—Important, as it has for its object, a knowledge of the structure of the human body, its condition in health, its state in disease, and the means adapted to, or necessary for restoring it to its original healthy standard.

Man is the most perfect part of creation: His existence not only interests us from the fact of his occupying so exalted a station, but because he is destined to a future state of life, when the frail tenement which his spirit now inhabits, shall have mouldered in the dust.

These considerations should induce us to look with more than common interest on his situation, and to regard him with greater anxiety.

We have in view the acquisition of such knowledge as shall enable us to restore the body of man when labouring under disease, and enable him still to hold that intellectual rank, which he was intended to occupy; for we all know, that when the body is diseased, the spirit droops, and man sinks as it were toward the earth, whence he was originally found; ceasing to exercise those noble powers that distinguish him from all other animals, he is left perhaps to borrow the dispositions of a demon, or grope in the absence of even instinctive light.

How delightful then the reflection, that we may at *such* a time, be made the humble means of restoring him from this fallen state, to the full exercise of his mental as well as physical vigour.

Who with such a prospect before him, can consent to loiter in the way? Who will not eagerly pursue the paths of this heavenborn science, determining to cultivate to the fullest extent the talents that God hath given him? Who, I repeat, will not run with eagerness in so glorious a race? So may we all run as to obtain the blessings and commendations of our fellow men, and the ap-

proving smile of heaven. Do you need other incitements to diligence? Look to those who have gone before us. How many grateful hearts have throbbed at the name of a Sydenham, a Fordyce, and a Rush; and with what fondness has succeeding generations cherished their talents and their virtues! Think you not, that many a tear of grateful remembrance has been shed to the memory of these, and similar ornaments of mankind? you not wish, do you not most ardently desire a like memento? Can you consent to descend to the graves of your fathers, and not leave a record of your existence engraven on the hearts of your fellow mortals? No! you cannot, you will not-ardent and unabating will be your endeavours to acquire knowledge. In the prosecution of our studies, there is much to please and interest us; but we should look far beyond this, and consider what glorious results may arise from the acquisition and diffusion of medical information. Behold what good you may do, and how much it will be in your power to add to the happiness of man. Let us consider no toil too great, no undertaking too difficult.

The merchant spends whole nights in anxious thought, and days of labour: He risks his all by land and sea, in the hope of adding still more to his heaps of shining dust.

The lawyer trims his midnight lamp to acquire fame and wealth. Men pursue various objects for different purposes some for fame, others for fortune. But where in the whole round of human pursuits, is there an employment superior, I had almost said, equal to ours. Fortune, it is true, presents not to us her shining honours; yet we may look to a reward more durable than gold, more lasting than fame itself, in the fond expectation, that we will one day add to the comfort and welfare of man. We have duties to fulfil whatever be our situation. As physicians, these obligations will be vastly increased; and it therefore becomes us, to be well prepared to discharge them. This is a time for preparation. Let us embrace every opportunity of improvement in a science on which so much depends. Let industry and perseverance be our motto. Cultivating peace, harmony, and brotherly union, let us "search for wisdom as for a hidden treasure"—ever remembering, that her more genial influence can only be felt when imparted to others.

May no unbecoming passions find a lurking place within our Respect and cherish knowledge from whatever source it Allow no cold or indifferent manner to check may be derived. in its bud, any effort of opening genius, even when clothed in the most humble and unwinning garb. True worth is modest and un-Encourage, then, every mark of originality in your assuming. members. Regard not too much the pleasing robe of rhetoric, but yield all due attention to the homebred child of knowledge. In fine, cherish every effort to burst the bonds of ignorance. Extend a fostering care, on all occasions, to those who are anxious to obtain information. Thus, you will often be the means of giving confidence and hope to those, who may, at some future day, add much to that profession, which it is our pleasure to pursue, and will be our happiness to practice.

As connected with medical education, we may notice the importance of obtaining our information in that section of country,

in which we expect to practice our profession.

Previously and subsequently to the Revolution, which gave our country not only a standing and character among the nations of the earth, but-brought also a domestic peace and tranquillity to which our fathers had hitherto been strangers: we were dependent upon Great Britain and some of the continental states, for nearly all the arts and sciences. Thither were our youth sent to be educated in the higher grades of knowledge. In latter years we have paid nearly the same tribute to our northern brethren. To them we have been obliged to look for education in most of its superior branches, but more particularly for our medical education:

And hence it results, when a student returns from the north, and enters on the duties of his profession, that he of necessity is compelled to lay aside many of the principles there imbibed. He finds it necessary to success that he should, from his own observation, establish a particular course of treatment for most of the affections incident to our climate. Thus is a young physician obliged to spend two or three years in obtaining sufficient practical knowledge, to enable him to treat with any degree of skill, the diseases arising from our peculiarity of situation.

However well he may be versed in the general principles of medicine, it requires time and experience to enable him skilfully

but this is an evil whose influence we may fondly hope we are no longer to feel; and the success of the institution to which we are attached, furnishes a firm foundation for such a hope.

Other considerations press strongly upon us; but they more properly belong to our well-being, as considered in a *political* and *civil* point of view.

Impressed with the importance of the reflections which we have made, it becomes our duty to cherish, by every means in our power, the college to which we are attached. Although still in its infancy, we yet discover in its features, the pleasing traits of a future manhood, whose well-nerved limbs will be equal to the task of bearing, at least in this section of our country, the sceptre, which, while it proves a protection and defence to every true son of Æsculapius, will become the terror of those slaves of empiricism, whose ignorance is only equalled by the cruelty with which they wantonly trifle with the health and lives of their fellow men.

### ARTICLE IX.

## TO THE EDITOR OF THE CAROLINA JOURNAL.

Sir—You will oblige many of your readers by publishing the enclosed letter, on a subject highly interesting to our planters on the sea-board. The principal object Mr. R. had in view, in addressing it to the St. John's Colleton Agricultural Society, was to draw its attention to the fact, 'whether the cotton caterpillar passed its dormant state among us during our warm winters, or not?' In a letter addressed by Mr. R. to the present correspondent secretary, he inclines to the belief, that it does—that himself in company with a Mr. F. of St. Helena Island, had found them late in February on cedar trees and sea-myrtle bushes, on a plantation where they appeared the summer and autumn before, wrapped up in leaves, in the manner they secure themselves in summer when they are about to be transformed into the butterfly.

Your's, very respectfully,

ISAAC AULD, Cor. Sec. A. S. St. John's Colleton. John's Island, 30th December, 1825.

Sir—As it is the bounden duty of every one in connexion with your society, to farnish it with whatever knowledge he may possess, on subjects connected with the interests of agriculture, 1 am ready to throw in my mite, on the nature and character of the cotton caterpillar. I am persuaded that this subject must be highly interesting to the agriculturalist on the sea-board. ever has been written on the subject by natural historians, in my opinion, is vague and uncertain. They begin by affirming, that the different species amount to at least three or four hundred that nature has placed the silkworm at the head of the whole species—and that the history of the silkworm will serve for the history of the whole tribe: I cannot believe all this; the silkworm is a very sluggish insect, whose wings are scarcely of any use to it, and it deposits its eggs in regular order all at one time; whilst the cotton caterpillar, on the contrary, is well formed by nature for activity, and is possessed of a restless disposition; it can transport itself a great many miles in a short space of time, since they have been known to fly on board of vessels on our coast; and a captain of a vessel, who sailed from Crooked Island, one of the Bahamas. in the year 1778, assured me they flew continually on board of his vessel, during his passage to this port. I think they were more numerous that year, than they were the last season. indigo on the sea-board was totally destroyed by them; and very certain I am, that they are one and the same insect. They differ from the silkworm in the manner of depositing their eggs. I found the last year, a single egg upon a leaf in several places; therefore, I conclude they must pass several days in performing this office, whilst the other performs it in a day or two at most. When I consider the helpless state of silkworms, I cannot but think that nature intended the sheep and the silkworm should be placed under the care of man for their mutual benefit. Author of Nature, who does nothing in vain, certainly intended that portion of the globe which lies between the tropics, as the home of the whole tribe of caterpillars; because, here there are but

two seasons, the wet and the dry, and a vertical sun acting upon and drawing up that miasmatic matter, which would prove destructive to all creation, "in whose nostrils is the breath of life," was it not that nature has provided animals and insects innumerable, who generate upon, and neutralize this destructive matter. In Africa, the same causes produce the same effect, the north tropic passing a part of the Mediterranean, as it does through our Gulf of Mexico. When we have had a winter with snow or sleet, the whole race of caterpillars will be destroyed or driven back to their proper home within the tropics; but when three or four warm winters come in succession, which generally produces much rain in summer, this enemy makes its appearance, extending itself 8 or 9 degrees north or south, and pass the winter in cones similar to the silkworm, which may be found on the bushes, (especially the cedar) growing within a few yards of the field, where they had been the year previous. I was shown them last February, by a gentleman of St. Helena Island, at a plantation on John's Island, on the sea-board, principally on the cedar bush, and the greater part of them alive in the cones in which they pass the winter, firmly fixed to a twig by a thread of silk, and well secured, by pieces of bark glewed over each other, which protected them from the rain and cold of the winter, whilst those loosely wound up in a folded leaf were generally dead. Therefore, I beg leave to suggest to you, the propriety of appointing a committee to examine this fact, and if it is found correct, it is easy to destroy them. They are so tenacious of life, that it is difficult to kill them by ordinary means. I have anointed them with spirits of turpentine, plunged them into corrosive sublimate, but to no purpose; I then put them into lime water, which killed them outright; but how to apply it is the question, when it is requisite to destroy them in great numbers.

I was told, that to plant the Palma. Christi among the cotton would prevent their ravages; but I found this of no effect; they did not eat the leaves, but they wound themselves in them as freely as they did in any other plant, which shows there was nothing deleterious in it. Suppose after a warm winter there are left ten thousand from Florida to James' Island, five thousand only will be females; and suppose the chrysalis or fly issues from the cone

# REYNOLDS ON THE COTTON CATERPILLAR.

88

about the 15th of May, the season of love being over, this first brood must plant their eggs on such trees or bushes, whose tender leaves will afford nourishment to the young; such as young scrub oaks, chinquapin, &c.; and further, suppose each female lays twenty eggs, (for the silkworm lays but sixty, and she is three times as large,) the brood which comes out on the 15th June will be ten thousand, and on the 15th July two millions; and now they may begin to lay their eggs on the cotton and surround the evening candle. It follows, we ought to begin to destroy them by placing fire, on blocks, at proper distances on the south side of the field, every calm evening for several nights; through which means multitudes will be destroyed. On the 15th of August, if not injured by drought, there will be forty millions; and in September, eighty millions; and on the 15th of October, one hundred and fifty millions; and as neither arithmetical nor geometrical proportions can serve my purpose, (for sure I am, that I had in my field alone, the full amount of my calculations,) I must have recourse to the West India Islands, which alone can furnish us with many millions in eight days time, in July, with a south wind. This brings to my mind what passed at Columbia: after searching the library for information on the generation of the caterpillar, I applied to a scientific gentleman for information, and he told me a celebrated German naturalist (Lievenpock) had affirmed, that their fecundity was so great, that in the course of a year they could generate a mass of matter equal in bulk to this globe from a single pair; and truly, the same may be affirmed of the willow and several other trees; but such calculations come and are founded in error, but cause and effect come from the unerring hand of nature. knowledge I have of the silkworm I got at Purysburg, where our regiment was stationed in the year 1776, from April to September; for in that place much attention was then given to silkworms. Some caterpillars destroy nothing but grass, and others nothing but corn, forming their cones, in which they pass their transformation, in the ground at the roots of the corn. Monsieur Buffon, a French writer, gives a drawing of two species, which he calls the caterpillar of Suranam, an island a little north of the equator; the largest has two rows of black spots on their wings, and the smaller but one row, and both are larger than any that visit us,

## MEDICAL INTELLIGENCE.

and most resemble the papillion of the night. There are three kinds, I think, of those who visit us; the largest has a single row of black spots on their wings; the next is of a dirty white, and the last have their wings of a purple hue.

I am, Sir, your obedient servt.

BENJAMIN REYNOLDS.

89

To WILLIAM SEABROOK,
President A. S. St. John's Colleton.

# Medical, Philosophical & Agricultural Entelligence.

Fistula lacrymalis.—Notwithstanding the numerous, and not unfrequently subtile treatises on the diseases of the lachrymal sac and nasal duct, for which Germany is indebted to the talents and researches of Schmidt, Himly, &c. still the treatment of the disease vulgarly called fistula lachrymalis, remains one of the most unpleasant and tedious parts of surgical practice. In France there exists very little precision as to the nature of the complaint; still Dupuytren is on the whole successful in the treatment of it. Roux, Dubois, and the late Beclard, with several others, employ needles, or pieces of lead, or pieces of catgut, for the dilatation of the narrowed canal, or they modify Desault's mode of operating, according to Scarpa's directions. Dupuytren's mode of operating, the bringing of a gold or silver cannula into the nasal canal by an incision in the lacrymal canal, which has been known to German surgeons for a long time past, I saw frequently performed by Dupuytren himself. The merit of this mode of operating is due to Joubert; and Dupuytren can only be called the reviver of it. After the puncture of the lacrymal sac has been effected, in the performance of which he pays no attention to the tendon of the orbicularis, but only to the nasal process of the superior maxillary bone; he directs the patient, in order to see whether the nasal canal be free, to hold the nose, and make a strong inspiration and expiration; if in the act of expiration, air comes out of the wound, then the object of the operation is generally accomplished. By the strong inspiration or expiration which one is compelled to make the pa-

12

VOL. I.

tient perform, it sometimes happens, that a quantity of air escapes into the cellular membrane of the inferior eyelid, and the neighbouring parts, so that emphysema occurs, producing a distressing tumour of considerable size. I saw this accident occur in two cases which Dupuytren operated on. The swelling was dispersed by the application of cold in the space of twenty-four hours, but the cicatrization of the wound was retarded. If there should be a fistula, the edges of which are callous, Dupuytren always touches them with the nitrate of silver on the introduction of the cannula. We will give the opinion of two of Dupuytren's scholars (in the last edition of Sabatier's Surgery, p. 257, vol. ii.) on the result "Dupuytren's plan is one of the simplest and of this operation. most practicable that can be devised. If the cannula is once brought into the nasal canal, and if it remains there firm, then every after-cure is quite unnecessary; the cicatrization of the external wound, takes place in four and twenty hours, when the puncture of the sac has been made with the bistoury; if a fistulous opening previously existed, the cicatrization takes place somewhat later. A great number of the patients operated on, scarcely know whether they have a foreign body in the lacrymal passage or not, so slight is the inconvenience produced by it. They all exhibit signs of astonishment when the operation is completed, that so little time has been required to perform it. Several patients of all ages and both sexes have been operated on by Dupuytren in this way with the best success. The results of this mode of operating are as follows:-From twenty patients at least sixteen were radically cured, without the slightest displacement of the cannula. In the remaining four cases, from various causes, it was necessary to remove the cannula. If, after the puncture of the lacrymal sac has been made, the os unguis is found laid bare and in a carious state, one ought to wait for the exfoliation of the bone, and keep the wound open by means of charpie brought into it, and after this lay in the cannula. If the canal is stopped up, the surgeon must endeavour to remove the obstacle to the side; or if the canal be quite obliterated, or no traces of it existing, as Dupuytren has several times found to be the case, then he makes the perforation of the lacrymal bone, recommended by Wolhouse, Petit, Hunter, Scarpa and others, and then lays in a peculiarly formed cannula.

the ends of which are somewhat larger than its centre. The operation of Dupuytren appears to me so well adapted for the cure of the disease, that I am really surprised that it has not met with a more general trial. The cannula can effect no cure where there is a polypous state of the mucous membrane of the canal, or where the inferior concha is the cause of the blenorrhæa of the lacrymal sac; in this last case the drawing through the canal of a silk thread, as recommended by Dr. Schmalz of Pirna, will be found peculiarly useful. And lastly, the application of Dupuytren's cannula is always contraindicated, when, on account of a great narrowing of the canal, great force is required.—Edinburgh Medical and Surgical Journal.

Treatment of Persons bitten by Mad Dogs, or Dogs supposed to be Mad, in the Hospital at Zurich. By Dr. Locher Balber. (Hecker's Litterarische Annalen der gesammten Heilkunde. June 1825.)—On the perusal of the mode of treatment adopted by Wendt in Breslau, for the prevention of hydrophobia after the bite of a mad dog, I was particularly struck with the similarity of the treatment adopted in Breslau and Zurich, and on the singular coincidence of their results. They have been both tried during a long series of years, and are now made known, for the first time, after their efficacy has been ascertained in hundreds of cases. a priority of age has any thing to do with them, the Zurich treatment is undoubtedly entitled to it, since it was introduced in the year 1783, whilst that in Breslau has been adopted only since Who is the real suggester of this treatment, is not now with certainty known; most probably it was Dr. J. C. Hirzel, senior, the archiater and physician of the Zurich hospital at that The treatment is as follows: Deep scarification of the wound, besmearing it with the pulvis lyttæ, application of a blister in the neighbourhood of the part, keeping up of suppuration, both in the blistered and wounded part, during six weeks, and the rubbing in of mercurial ointment, till symptoms of approaching salivation come on. Internally, the adults take, for three weeks in succession every morning, and after that period, .for some time longer, every other morning, fasting, a powder composed of five grains of powdered belladonna; for which, when no trace of sali-

vation shows itself, or if the patients come under treatment only a few days after the receipt of the wound, calomel should be substituted, or be given from the very commencement. The object of giving these moderately large doses of belladonna is, that the patient should from each dose have the symptoms of incipient intoxication, at least dryness of the throat, glimmering or haziness before the eyes, vertigo, and afterwards perspiration. Then a diaphoretic mixture of liquor ammoniæ acetatis and succinat, with copious portions of tea, is ordered for the patient, and a diaphoretic regimen recommended. He must remain in bed the four first weeks after the accident, and receive no animal food. lay," (says Dr. Rahn, one of the physicians to the hospital,) "a great deal, and indeed by far the greatest stress on the external treatment. But still I think that we could not safely rely on the external alone; but internal means must be given at the same time, and regularly continued, as we do not know how rapidly a part of the poison brought into the wound may be absorbed, and which can only be destroyed by the action of internal remedies." If the clothes are also bitten through, they are always burnt.

According to this mode, there have been treated, in the 42 years since it has been in use (from 1783 to 1824 inclusive,) 233 persons who have been bitten, viz. 182 from dogs, 50 from cats and foxes, and 1 by a martin (mustela.) In the ten years from 1783 to 1792; there were treated 13 persons who were bitten by dogs supposed to be mad, and 18 by dogs of whose madness there was not the least doubt (it is certainly not stated by what means the madness of the dogs was proved,) by a cat supposed to be mad 1, and by mad cats 5, making in the whole 47. From 1793 to 1802, by dogs suspected to be mad 14, by dogs absolutely mad 20, (all these in the years 1793, 1794, 1796, and 1797,) by a cat suspected to be mad 1, and 6 by cats in a state of real madness, making altogether 31. From 1803, no particular mention was made in the books between dogs which were only suspected to be mad, and those which were really in a state of madness. From 1803 to 1812, bitten by different beasts, there were admitted 67; and from 1813 to 1824 (inclusive,) there were admitted 78 bitten persons; and from these, 36 were bitten in the years 1820 and 1823 by mad dogs. From these 233 bitten persons, many were admitted on the second, third, fifth, sixth, seventh, tenth, and fourteenth day, and even five eight weeks after the wound had been received. From the whole, 4 only died, 2 in 1784 and 1791, on the second day after their admission, and consequently scarcely submitted to the influence of the treatment. Of the other 2, one (a woman) was bitten on the inner and outer side of the mouth, and the other, a child, on the eyelid, so that the prescribed means could not be employed with the requisite and usual exactness.

So much for the treatment and the results with which it has We see, however, three important remedies rebeen attended. commended, in conjunction with each other, for the prevention of The question is, whether it is necessary that these three medicines should be joined together; or can any one of them be employed singly with safety? Before I proceed to answer these questions, I beg to be allowed briefly to state some other modes of treatment very similar to that employed at Zurich, and then to compare their results, in order that I may found my answers upon them. The mode of treatment recommended by Wendt (vid. Review) in his work is as follows:—filling of the wound with pulvis lyttæ, and the keeping up of a copious discharge for six weeks; besides this, rubbing in of mercurial ointment, and the giving of calomel internally for six weeks, so that a severe salivation be kept up. Of 106 which were bitten by mad dogs between 1810 and 1823, two only died. There were 78 persons besides these treated; but the animals were proved not to be mad, and, consequently, the treatment was modified. In the Beobachtungen und Abhandl. aus die Heilkunde, (Bd. I.) conducted by some Austrian physicians, the senior surgeon of the large hospital at Vienna, T. M. Axter, has published an account of the treatment pursued by him in cases of bites from animals during the last 27 years; and, during the whole period of that time, not a single old patient was ever brought back to the hospital with hydrophobia. During three or six days in succession, he gives internally a grain of pulvis lyttæ, with six grains of canc. ocul. and sugar; externally, over the wound, a blister was applied, and then it was dressed with the pulvis luttee, or washed with some stimulating lotion during the space of six weeks. I regret that I have only been able to see a short extract of Dr. Axter's account in the Salzburger Zeitung, (1820, B. I. p. 23,) where more minute particulars are not to be found. Dr. Hausbrand, district physician at Braimsberg, has given in Hufeland's Journal for 1821, (Part. II. p. 21,) the following treatment: first active, blood-letting, (this is only to be pursued, however, when the patient applies soon after the accident,) deep scarifications of the wound, promotion of the bleeding, washing of the wound with salt and water, and the application of an ointment composed of ungentum basilicum and powdered cantharides, or a large blister over the wound, and keeping up of the suppuration during the space of three months at least. Internally, the patients were to take, for three evenings, a powder composed of camphor and opium, drink elder tea, and keep up a copious perspiration. There are only eleven cases given by Dr. H. of persons who were bitten by dogs absolutely mad, and treated in this manner by him; but they all recovered.

On looking at these four different prophylactic modes of treatment, we perceive that, as to the external treatment, it is essentially the same, but that the internal differs in each; but, still, they have been all attended with the same fortunate results. Breslaw, the patients were kept in a state of salivation for six weeks; of more than a 100 patients, only two died; and the wounds of these persons were so situated, that the local means could not be applied with the same effect as in the other cases. In Zurich, the patients are never brought into a state of complete salivation; the belladonna is continued six weeks without intermission, and the patient is kept in a state of perspiration. more than 100 patients (I will allow that only half of the 233 were bitten by mad animals) only two died; and the wounds of these persons were in such a situation, that they could not be properly treated. Dr. Hausbrand gives neither quicksilver, but certainly keeps up perspiration, during the three or four first days, by opium and camphor; and has, hitherto, not lost a case. Mr. Axter gives to his patients nothing, with the exception of a grain of cantharides, during a few days after their reception into the house; and he has also been equally successful in his treatment. From these facts the following conclusions may be drawn. Neither quicksilver, nor belladonna, nor diaphoretics, are of themselves able to prevent the occurrence of hydrophobia. 2. If one

be not warranted in saying the same of cantharides, still, its internal use may be dispensed with. 3. The local treatment is the only sure and certain preventive against the recurrence of the complaint. If, after these four different modes have now been generally made known, we should still hear of persons dying after the bite of mad dogs, it will certainly be a matter of astonishment; and the fault will either be in the patient's not applying for relief in proper time, or in the physician for being ignorant of these valuable but simple modes, and trying other plans of treatment less sanctioned by the test of experience.—Ibid.

We have read, with much pleasure, the first number of the North American Medical and Surgical Journal, a work highly creditable to our country, and which is another gratifying evidence of the great advance of medical literature and science in the United States. We extract the following remarks of Dr. Mitchell on the use of acetas plumbi in some cases of cholera infantum; premising, that to our enterprizing and distinguished townsman, Dr. Mathew Irvine, we are indebted for drawing the attention of medical practitioners to the value of this remedy in many diseases.—Editor.

"In cholera infantum, the acetate has proved to be a safe and useful medicine. I am not aware that we have on record any recommendation of this article in cholera; at all events, the disease and the remedy are not to be found associated in any of the books with which I am conversant. Far be it from me, however, to put in the shadow of claim to originality in this matter. is the humble task of waiking in the path which another has mark-The individual, who first exhibited the sugar of lead in cholera infantum, so far as my personal knowledge or general information extends, was an obscure practitioner in Montgomery county of this State. I learnt from him in the year 1818, that he had been in the practice of administering the acetate in small doses, for several years, both in dysentery and cholera, with great His commendations led me to make trial of the remedy, and the result was equally fortunate. In all cases, I combined the acetate with calomel, which latter had previously been the almost exclusive remedy with which I encountered cholera. To an

infant from ten to twenty months old, I gave from half a grain to a grain of calomel, with from an eighth to a fourth of a grain of the acetate, every three hours; and I have seldom found it necessary to continue the treatment longer than three or four days. The discharges are soon lessened in frequency and quantity, and much altered in their consistence and general aspect. I prefer, because most readily administered, the solid form, in giving medicines to children, but have occasionally combined the sugar of lead with calcined magnesia and mint water, in form of julap. The best way of getting infants to take the above, or any other powders, is to put them on the end of a finger previously wetted with molasses, and then to introduce the finger into the child's mouth, by which means nothing is lost.

"Exhibited in the cautious manner above detailed, I have not known any unpleasant circumstance to attend the use of the sugar of lead, in a single instance; nor do I believe it to be, at all, a dangerous medicine in such cases.

"I have not ventured to give the acetate in those cases of cholera in which the stomach mainly was affected, and where only a trifling looseness of the bowels was present, because I have found the calomel alone, to be the most suitable remedy. But where the purging is almost incessant, watery, and greatly debilitating, I have seen the sugar of lead, in conjunction with calomel, produce the most salutary effects."

We have read, with much satisfaction, an elaborate, condensed and interesting essay by Dr. Bell, on the important question, "To what extent has the vaccine disease been found to be a preventive of small-pox?" in the New-York Medical and Physical Journal, for which he obtained the Boylston prize for 1825. We have not space to enter into an analysis of this essay, or the discussions which have arisen, regarding the identity of small-pox and varicella, which were so ably conducted, some years back, by Drs. Thompson, Monro, Abercrombie, Bryce, &c. &c. but must content ourselves with presenting our readers with the subsequent conclusions, which Dr. Bell has come to, after examining all that has been written on the subject.—Editor.

"1. Small-pox proves fatal in about one in five cases, when contracted naturally.

"2. The eruptive diseases known under the names of sheeppox, swine-pox, water-pox, wind-pox, horn-pox, &c., are all varities of small-pox, produced by atmospheric influence, constitutional peculiarities, or some other unknown causes.

"3. Varicella, or chicken-pox, formerly regarded as a variety of small-pox, but since the year 1767 considered a distinct disease, must be again restored to its former situation, and classed with the varieties just mentioned.

"4. Small-pox is modified in three several ways: 1st, by a previous occurrence of the same disease; 2d, by inoculation; and, 3d, by vaccination.

"5. Though it is difficult to form even a tolerable accurate estimate of the degree of protection which the first of these cases offers, from the want of sufficiently extensive data, yet it is evident from those which we have, that though cases of this kind are more rare, they have proved more fatal than those succeeding inoculation.

"6. Small-pox, communicated by inoculation under favourable circumstances, and in a proper manner, does not prove fatal in more than one in three hundred cases, though its former mortality was much greater.

"7. Inoculation should be discouraged in every manner possible, since its performance serves to keep up and diffuse the smallpox amongst those who, from ignorance or negligence, possess no protection against it.

"8. Vaccination furnishes, in a great proportion of cases, a complete and perfect immunity against the attacks of small-pox.

"9. It modifies the access of small-pox in a slight degree, usually rendering the febrile stage somewhat milder, although the stomach and respiratory organs are often more strongly affected than in its ordinary course.

"10. It possesses a controlling power over the progress of inflammation in the eruption, shortens its course, in the majority of cases, prevents its reaching the pustular stage, and in almost every instance obviates the occurrence of secondary fever.

"11. The varioloid disease, or small-pox after vaccination, vol. 1.

does not endanger life; there being no case on record in which it has proved fatal, after the system has been thoroughly subjected to the influence of the cow-pox.

"12. That reason and probability are highly in favour of the truth of Dr. Jenner's opinion, that the security which vaccination offers is in a direct proportion to the degree of perfection of the vaccine process; and that in consequence, it is advisable to revaccinate as long as any effect is produced.

"13. The vaccine virus, which has now been employed upwards of twenty years, in every civilized part of the globe, has suffered no deterioration; and it now confers all the security against the small-pox which it ever has done.

"14. There are no grounds for believing that time weakens, in any degree, the protection which an individual receives from having been once properly vaccinated.

"15. It cannot be considered otherwise than the duty, not only of all medical men, but of the public authorities and all interested in the public health, to encourage, as far as is practicable, the practice of vaccination."\*

Report of the Meeting of the Delegates of Agricultural Societies, held at the Carolina Coffee-House, in Charleston, on Wednesday, Feb. 22, 1826; pursuant to public advertisement.

In the course of the past year, the St. John's Colleton Agricultural Society addressed a circular to her sister Societies in the state, on the importance of establishing a general society to be composed of delegates from other Agricultural Societies, for the promotion of the interests of agriculture; for the furtherance of

\* We would advise all practitioners and planters likewise to use the test of Dr. Bryce whenever they vaccinate, for one great cause of the violence of varioloid or modified small-pox, in some instances, doubtless arises from the vaccine being local instead of constitutional in its action. The importance of the subject induces us to give the method of Dr. Bryce. He vaccinates in one arm, and on the fourth day he vaccinates in the opposite arm; and if the pustules on each arm maturate at the same time, it is an incontestible evidence of the vaccine affecting the whole constitution.—Editor.

this object a meeting was proposed to be held in Charleston on the fourth Wednesday in February of this year.

The important measure proposed by the St. John's Colleton Agricultural Society, was concurred in by the following societies appointing three delegates to represent them at the intended meeting. At the hour appointed, the following gentlemen attended in behalf of their respective societies:

St. John's Colleton-Whitemarsh B. Seabrook, John R. Mathewes and Joseph Whaley.

Pendleton-Thomas Pinckney, jun. and John E. Colhoun.

South-Carolina—William Washington, Edward Brown and James Cuthbert.

Barnwell District-John S. Bellinger and Barnet H. Brown.

St. Helena—Charles G. Capers, Thomas Aston Coffin and Charles W. Capers.

St. Paul's-Charles E. Rowand.

Col. Thomas Pinckney was called to the chair, and Edward Brown appointed secretary; when Mr. Whitemarsh B. Seabrook addressed the meeting—explanatory of the object for which it had been convened, and of the importance of a general Society to the agricultural interests of the state; after which, the following resolutions were unanimously carried:

Resolved, That a committee be appointed to report a constitution for an United Agricultural Society in this state; and that the chairman be requested to nominate one delegate from each society represented at the meeting, to act as the committee.

Resolved, That Whitemarsh B. Seabrook, John E. Colhoun, Edward Brown, John S. Bellinger, Charles G. Capers and Charles E. Rowand, do constitute a committee for the purpose above stated.

Resolved, That the chairman be requested to become one of the committee.

Resolved, That this meeting do adjourn to meet again on Friday evening next, at 6 o'clock.

Signed, THOMAS PINCKNEY, jr. Chairman.

EDWARD BROWN, Secretary.

At the adjourned meeting, held agreeably to the last resolve of the previous one, the Beaufort Agricultural Society was represented by Mr. Barnwell, one of its delegates, attending. Dr. Scriven the President, Mr. Frederick Fraser the Corresponding Secretary, and Messrs. James Heyward and James Bowman, Members, of the Barnwell District Agricultural Society, attended the meeting, and expressed their concurrence in its object and proceedings. The committee presented through their chairman its report, which was approved and accepted by the meeting.

## REPORT.

The committee appointed to prepare and digest a plan of association for the agricultural societies of this state, beg leave to report, That with a view to ensure the accomplishment of their object, they have deemed it advisable, by avoiding all unnecessary detail, to draft such articles of association only, as are essential to the organization of the contemplated Union. Your committee are decidedly of opinion, that it would be legislating injudiciously, to attempt, at this time, to effect all of the important measures in prospect. To progress with due caution, and to consult the general feeling of the community, they are persuaded, is the proper course to be pursued.

At the first conference, certain difficulties presented themselves relative to the location of the Association, and the manner in which the annual contribution of each society should be apportioned. From the disposition of the committee, however, to yield all sectional predilection, and to remove every impediment in the way of their purpose, those difficulties have happily been removed.

As the proposed plan of union is to be submitted to every agricultural society of this State, for their approbation and sanction, it is confidently anticipated that no minor consideration will deter them from promptly giving their assent. The individual societies possessing the right of offering amendments to the contemplated constitution, the general meeting, at its first session, will thus be enabled to avail itself of the information and experience of the whole agricultural community, and hence, to devise a more enlarged and efficient scheme of government.

When the first meeting shall have been held, your committee conceive, that the greatest difficulty will have been surmounted. The feelings incident to such an interesting assemblage, would alone create an excitement, highly favourable to the accomplishment of their general views.

The agriculture of South-Carolina may be said to be confined to particular districts. While in one direction, the scene that opens to our view is bright and cheering, in many sections of the state, dilapidated houses, and abandoned farms, show the prostration of a system, which, for causes not now necessary to be detailed, the wisdom and foresight of the constituted authorities should have been exerted to prevent. Shall the sites, once the seat of industry, wealth and health, be restored to their pristine beauty and fertility, or shall they be destined to become the residence of the "banditti of the black?" Shall an useful class of the community continue to grope in the labyrinth of Ethiopean stupidity, or shall they be instructed in the theory and practice of that profession, whose duty they now but nominally perform? Is agricultural science, by nature, circumscribed within narrow limits, or can its countless blessings be disseminated by private zeal or public patronage? Are the farmers of this state so dead to their true interests, that they cannot be aroused to a simultaneous movement in the sacred cause of their vocation? To these questions, let the intelligence, the patriotism and the pride of South-Carolina, respond.

That the proposed union may tend to promote the welfare of every class of the community—to meliorate the physical condition of the state, and to place South-Carolina on an eminence still higher than the elevated ground she now occupies, is the fervent prayer of the committee, individually and collectively.

WHITEMARSH B. SEABROOK, Chairman.

EDWARD BROWN, Secretary to the Committee.

A constitution for the government of the contemplated Society, was next presented, which, having been considered by sections and a few slight amendments proposed, was finally agreed to in the following form, to wit:

The undersigned agricultural societies, with a view to establish an union, to ensure an accordance in their sentiments and measures, to found an agricultural school and a professorship of agriculture, to collect and disseminate information, and the more effectually to promote the permanent interest of their creation, do agree to unite under the name and style of the *United Agricultural Society of South-Carolina*; and to adopt the following as their articles of association:—

ARTICLE I. There shall be held annually on the first Monday in December, a general meeting of the societies by delegation at Columbia, S. C.

ART. II. It shall be incumbent on the societies composing the union, each, to appoint not less than two or more than five members; and it shall be their duty to furnish the delegates with a certificate of their appointment after the following form: At a meeting of ————, on the ——— day of ———, 18——, A. B. C. D. &c. were duly elected delegates to represent this society, on all meetings of the United Agricultural Society of South-Carolina, for two years, commencing from the first Monday in December next.

ART. III. The officers of the society shall consist of a President, two Vice Presidents, Treasurer, Recording Secretary and Corresponding Secretary, and a Committee of Communications, to be composed of one delegate from each society.

ART. IV. It shall be the duty of the President to preserve order in the general meetings, and to perform all other duties appertaining to his office.

ART. V. In the absence of the President, at any meeting, the senior Vice President to take the chair; and in the absence of the President and Vice Presidents, the meeting to appoint a chairman from the members present. If any other officer is absent, the society shall nominate a member to supply the vacancy, protempore.

ART. VI. The Recording Secretary shall faithfully register the proceedings of the society, and preserve all papers that may be intrusted to his charge.

ART. VII. It shall be the duty of the Corresponding Secretary, to carry on the necessary correspondence of the society; and, when directed, to transmit to each society a copy of the several

papers which may have been transmitted to the general meeting. The Corresponding Secretary shall be, ex officio, a member of the Committee on Communications.

ART. VIII. The Committee on Communications shall prepare and digest all papers ordered for publication, and perform such other duties as it may be directed to discharge.

ART. IX. It shall be incumbent on the societies composing the Union, to transmit to the United Society, at the meeting in December, a fair copy of all the important original communications which may have been read before them.

ART. X. Any society formed for the same general objects may become a member of the Union by sending delegates to the general meeting, who shall subscribe to these articles for their society.

ART. XI. The delegation from each society, at the first general meeting, shall have one vote.

ART. XII. Until the society shall adopt a plan of raising funds to meet its exigences, each society who shall agree to send a delegate or delegates, and sign these articles, shall pay to the Treasurer of the United Society the sum of Twenty Dollars, at the meeting in December next.

Resolved, That it shall be the duty of the Secretary of this meeting, to transmit to the President of every Society here represented, and all other Agricultural Societies in the State, copies of our proceedings for approbation and ratification; and, upon the receipt of their acceptance or rejection, it shall be his further duty to communicate the information to each society who shall have consented to the Union.

Resolved, That to carry these Articles of Association into effect, it is necessary that five societies should consent to their ratification.

Resolved, That the Secretary be instructed to publish 150 copies of the proceedings of this meeting, for the information of the Agricultural Societies of the State; and that the Editors of Newspapers in this city, the Editor of the Carolina Journal, Columbia Telescope and American Farmer, and Editors of Newspapers in

### INTELLIGENCE.

this State friendly to the object of the meeting, be requested to publish this report.

Signed,

104

THOMAS PINCKNEY, jr. Chairman.

EDWARD BROWN, Secretary.

With much pleasure we announce to our readers, the intended publication of "Sketches of the Elements of Natural Philosophy; accompanied with Sketches of a New Theory of the Earth, by J. L. E. W. Shecut;" and we do think that the enterprising and intelligent author is deserving of the patronage and encouragement of his fellow countrymen. The work will be printed in a style creditable to the State.

Deaths in Charleston.—From the Return of the number of Deaths which occurred in Charleston during the year 1825, it would appear that there were of

White Males,	-		-	-	-	228	
White Females	,	-			•	125	
Black Males,				_		253	<b>35</b> 3
Black Females,		-			-	234	
							487
		Tot	tal,		-		840
Of the White Person	s there	wei	re,				
Natives of this	State,	-	-	-	-	-	188
Natives of differ	rent pa	rts	of the	Uni	ted St	ates,	74
Foreigners,		-	-			٠	91
White	Perso	nne.		_	_		353

We have not room at present to give a detail of all the diseases; we remark, however, that of the number of deaths, there were only 49 of small-pox, (a disease which has been prevailing here with great violence,) but one of which was known to have been vaccinated or inoculated.